PROJECT ENGINEER : JOHN ABBOTT PHONE NO.(309) 671-
DESIGNER : MIKE GEORGE PHONE NO. (309) 671-3476

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FA ROUTE 317 (U.S.150)
SECTION 13 W & RS-2, 14 W & RS (15B-1) I,
(13 HB) BDM, (14 HB) BR, 14 HB-1, 15 B-I-7, 16-1-1
PEORIA & TAZEWELL COUNTY

C-94-365-89

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 317	*	PEORIA & TAZEWELL	332	1
F.H.W.A. REG. 4		ILLINOIS	PROJECT	

D-94-090-89 (13W&RS-2, 14W&RS(15B-1)1, (13HB)BDM, (14HB)BR, 14HB-1, 15B-1-7, 16-1-1

INDEX OF SHEETS

SEE SHEET NO. 2

LIST OF STANDARDS

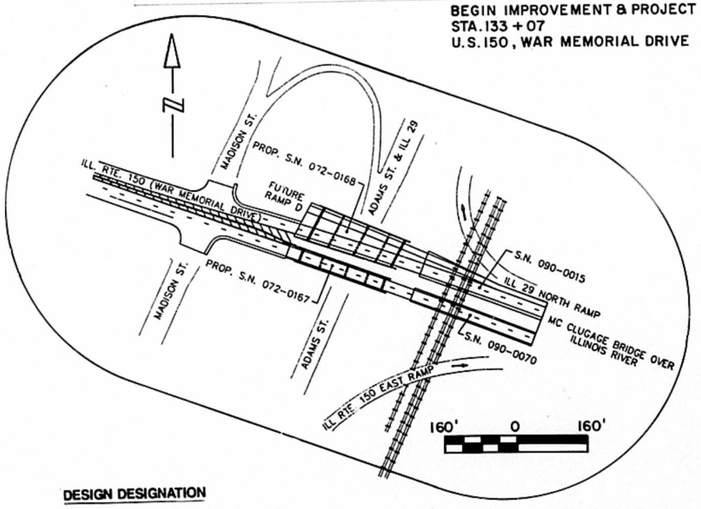
1527-9	2217-3	2308-6	2323-12	2381 2384-1
1683-4	2230-16	2313-5	2325-5	2385
1686-4	2262-4	2314-6	2327-11	2396
2113-2	2298-9	2315-8	2336-4	2397-1
2122-15	2299-13	2316-13	2340-4	2426-3
2130-12	2300-3	2317-7	2341-5	2442-1
2135	2303-7	2318-8	2350-3	CASE-U1
2213-4	2305-6	2319-5	2354-1	CASE-U2
			2356-1	CASE-U3

HIGHWAY CLASSIFICATIONS

CLASSIFICATION	URBAN MAJOR
ACCESS CONTROL	PARTIAL
DESIGN SPEED	45 M.P.H.
MAXIMUM GRADE	6.90%
MAXIMUM RADIUS	1014.98'
MAXIMUM DEGREE OF CURVATURE	5° 38' 42"
A.D.T. (WAR MEM.)	28,500
% TRUCK	2%
A.D.T. (ADAMS)	17,000
% TRUCK	2%

URBAN FEATURES
0 20 40 scale feet — 1"= 20' HORIZ. PLAN
0 5 10 scale feet — 1"= 5' VERT. PROFILE

CROSS-SECTIONS
0 5 10 scale feet — 1"= 5' HORIZ.
0 2 4 scale feet — 1"= 2' VERT.



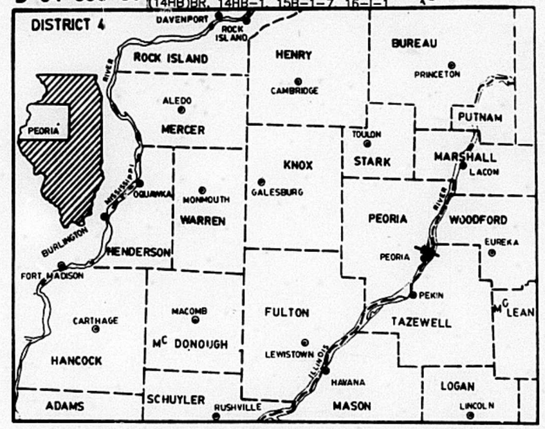
BEGIN IMPROVEMENT & PROJECT
STA.133 + 07
U.S.150, WAR MEMORIAL DRIVE

DESIGN DESIGNATION
3030 (03) MAJOR 4-41 (COMP-20)

STA. EQUATION 150+74.80 BK = 150+74.01 AH.
STA. EQUATION 178+98.75 BK = 179+04.50 AH.
STA. EQUATION 201+61.73 BK. = 201+64.59 AH.
STA. 201+86.92 END OF NET LENGTH OF IMPROVEMENT

LOCATION MAP
SCALE 1 = 1200 FT
1200' 0 1200'

CROSS-OVER DETOUR
STA. 249+00 TO STA. 253+66.57
END OF GROSS LENGTH OF IMPROVEMENT & PROJECT



LOCATION OF SECTION INDICATED THUS: —

PROPOSED IMPROVEMENT

THE WORK INCLUDED CONSISTS OF COLD MILLING, WIDENING AND RESURFACING, CURB AND GUTTER, SIDEWALKS, SEWERS, RETAINING WALLS, PAVEMENT MARKINGS, AND OTHER INCIDENTAL WORK NECESSARY TO COMPLETE THIS SECTION. STRUCTURES WORK INCLUDED CONSISTS OF ONE REMOVAL AND REPLACEMENT OF EXISTING STRUCTURE AND ONE NEW STRUCTURE OVER ADAMS STREET, AND THE REHABILITATION OF THREE SPANS OF THE WEST END OF THE E.B. AND W.B. Mc CLUGAGE BRIDGES.

FRANK L. TILEY 26547 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS — 2-24-93
Frank L. Tiley
ILLINOIS P.E. 26547
EXPIRES - NOV 30, 1994

TOTAL SHEETS: 332

SIGNATURE SHEET ON PAGE #2.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 2/17/93 19
D E Rivinius
DISTRICT ENGINEER

EXAMINED 19
ENGINEER OF PROJECT DEVELOPMENT AND IMPLEMENTATION

PASSED April 23 19 93
Gary Gould
ENGINEER OF DESIGN AND ENVIRONMENT

APPROVED April 23 19 93
Ralph C. Wehner
DIRECTOR OF HIGHWAYS

FOR UTILITY INFORMATION
CALL J.U.L.I.E.
PHONE 800-892-0123

RALPH HAHN & ASSOCIATES

SURVEY BOOK NOS.
2529 A,B,C,D,E
CATALOG NO. 030032-01

CONTRACT NO. 88154
Sheets 1 Thru 100

GROSS LENGTH OF IMPROVEMENT = 12051.75 FEET = 2.283 MILES
NET LENGTH OF IMPROVEMENT = 6872.10 FEET = 1.302 MILES

PEORIA & TAZEWELL COUNTY SECTION 13W & RS-2, 14W & RS (15B-1)I, (13HB) BDM, (14HB) BR, 14HB-1, 15B-I-7, 16-I-1 FA RTE 317 (US 150)

D C B A 0 A B C D

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEETS
U.S. 150	*	PEORIA/TAZEWELL		2
		ILLINOIS	FED. AID PROJECT	

* 13W & RS-2, 14W & RS (150-1)

GENERAL NOTES

1. THE LOCATION OF EXISTING WATER MAINS, GAS MAINS, SEWERS, ELECTRIC POWER LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATIONS AND THE BEST INFORMATION AVAILABLE, BUT THEY ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION.

2. UTILITY ADJUSTMENTS SHALL BE MADE BY THE UTILITY COMPANIES, EXCEPT FOR THOSE WHICH HAVE BEEN NOTED AS PAY ITEMS.

3. WHERE SECTION, SUBSECTION, SUBDIVISION OR PROPERTY MONUMENTS ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

4. WHERE AN EXISTING INLET IS REQUIRED TO BE FILLED OR THE GRATE REPLACED, THE EXISTING GRATE OR FRAME AND GRATE SHALL BE SALVAGED AND REMOVED BY THE CONTRACTOR TO THE EAST PEORIA MAINTENANCE YARD.

5. ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION, AS INDICATED BY THE SUB-NUMBER OF STANDARDS ON COVER SHEET OR THE COPY OF THE STANDARD INCLUDED IN THESE PLANS.

6. SIDEWALKS RAMPS SHALL BE CONSTRUCTED PER STANDARD 2356, THE PLAN DETAIL AND AS DIRECTED BY THE ENGINEER.

7. ALL ELEVATIONS SHOWN REFER TO U.S.G.S. DATUM AT MEAN SEA LEVEL, UNLESS OTHERWISE NOTED.

8. THE THICKNESS OF BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

9. GOETECHNICAL FABRIC SHALL BE PLACED ONTO COMPACTED SURFACE PRIOR TO PLACING OF SUB-BASE GRANULAR MATERIALS. ALSO IN AREAS OF POOR SIDE SLOPE STABILITY THE FABRIC WILL BE PLACED IN MUTIPLE LAYERS TO INCREASE STABILITY. SEE DETAIL SHEET 125.

10. REFLECTIVE CRACK CONTROL PLACEMENT TO BE PLACED ON THE LEVELING BINDER.

11. SAW CUTTING: A SAW CUT SHALL BE REQUIRED TO THE FULL DEPTH AT THE JOINT BETWEEN THE PAVEMENT, SIDEWALK, CURB AND GUTTER, MEDIAN, DRIVEWAY PAVEMENT, BITUMINOUS SURFACES TO BE REMOVED AND THAT LEFT IN PLACE BY THE ENGINEER. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE REMOVAL ITEMS.

12. SEE DETAIL SHEET 125 FOR P.C.C. BASE COURSE OR CURB AND GUTTER TYING WITH EXIST. PAVEMENT.

13. THE HANDICAP ACCESS ROUTE IS TO BE MAINTAINED ENTIRELY ON THE NORTH SIDE OF WAR MEMORIAL DRIVE FROM PROSPECT AVE. TO MADISON STREET.

14. ADEQUATE PAVEMENT DRAINAGE WILL BE MAINTAINED. SEE TEMPORARY DRAINAGE DETAIL SHEET NO. 126.

15. PRIOR TO A WINTER SHUTDOWN THE FOLLOWING STEPS MUST BE TAKEN:
   - ALL COLDMILLED SURFACES SHALL BE OVERLAID WITH LEVELING BINDER/BINDER COURSE
   - ALL LANES MUST BE REOPENED TO TRAFFIC.
   - MANHOLES MUST BE ADJUSTED TO THE ELEVATION OF THE BINDER COURSE/LEVELING BINDER TO EASE IN PLOWING SNOW, AND ADJUSTED TO FINISHED GRADE IN THE SPRING: PAID FOR IN ACCORDANCE WITH ARTICLE 109.04.
   - TEMPORARY PAVEMENT MARKING MUST BE PLACED ON ALL BINDER COURSE.

16. SPECIAL GUARDRAIL AND TRAFFIC BARRIER MODIFICATIONS-THE CONTRACTOR SHALL FURNISH FABRICATION DRAWINGS FOR DEPARTMENT APPROVAL PRIOR TO ERECTING THE DECK MOUNTED CASE 4 GUARDRAIL AND TEMPORARY BARRIER TERMINALS TRAFFIC PROTECTION DETAILS LOCATED AT THE JUNCTION OF STRUCTURE NUMBER 090-0115 (WEST BOUND OVER RAILROAD) AND RAMP F (EXISTING OFF RAMP TO RT. 29 NORTH).

    THE SOUTH FACE OF THE GUARDRAIL POSTS ARE TO BE MOUNTED ON RAMP F, YET MAINTAIN THE PLANS STATED HEIGHTS ABOVE THE PROPOSED STRUCTURE DECK. VARIABLE HEIGHT POSTS AND BASE PLATES , MOUNTED FLUSH WITH THE JOINT BETWEEN STRUCTURES,WILL BE REQUIRED.

17. PAVEMENT PATCH TO BE CONSTRUCTED TO EXISTING GRADE. EXISTING PAVEMENT, INCLUDING TYPE B PATCH, SHALL BE COLD MILLED TO PROPER ELEVATION.

18. THE CONTRACTOR WILL SUBMIT TO THE ENGINEER A SATISFACTORY PROGRESS SCHEDULE AND CRITICAL PATH SCHEDULE WHICH SHALL SHOW THE PROPOSED SEQUENCE OF WORK AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE.

INDEX OF SHEETS

SEE GENERAL PROJECT PLAN ON P. 33

SUBMITTED 3-18-93
DISTRICT ENGR. OF PROGRAM DEVELOPMENT

EXAMINED 3/17/93
DISTRICT ENGR. OF PROJECT IMPLEMENTATION

EXAMINED 3/17/93
DISTRICT ENGR. OF OPERATIONS

REVIEWED FOR CORRELATION WITH APPROVED DESIGN REPORT AND ENVIRONMENTAL ASSESSMENT
DATE 3-18-93
DIST. STUDIES AND PLAN ENGINEER

ENTIRE SECTION INSPECTED AND APPROVED AS TO POLICY.
DATE 3/17/93
DISTRICT ENGINEER

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS AND GENERAL NOTES

F.A. RTE. 317 (U.S. RTE. 150)

SCALE: NONE
DATE: 03/01/93

DRAWN BY: CADD
CHECKED BY: J.E.O.

REVISED 3/9/93

02/23/93 05:28:26 P.M. GEN-NOTE.DWG

D C B A 0 A B C D
TAMERAN

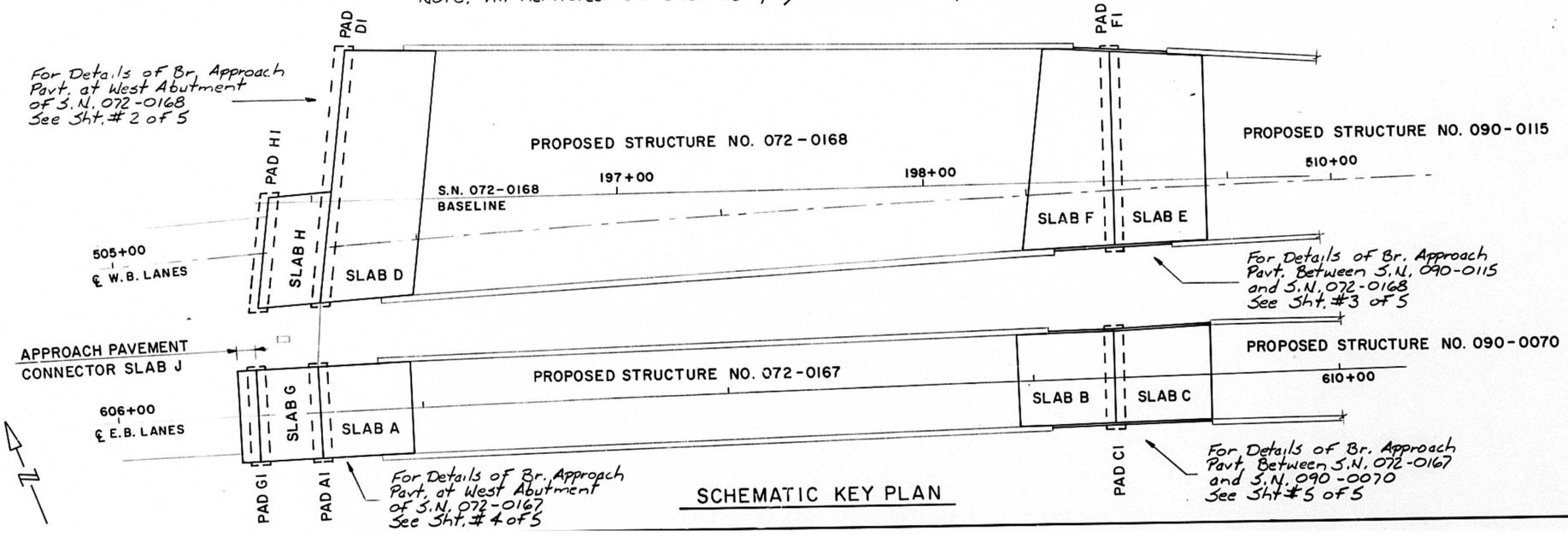
3h7 #1 of 5

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	*	PEORIA		136
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

* 13W & RS-2; 14W & RS

REINF. SCHEDULE APPROACH SLAB												REINF. SCHDLE CONC. PAD					ESTIMATE OF QUANTITIES TABLE			
BOTTOM REINFORCEMENT						TOP REINFORCEMENT						LONGITUDINAL		TRANSVERSE #5			BR. APPROACH PAVT. SLAB AREA SQ.YDS.	REINFORCEMENT INCLUDES PAD POUNDS	CLASS X CONC. INCLUDES PAD CU. YDS.	BR. APPROACH PAVT. CONNECTOR AREA SQ.YDS.
TRANSVERSE #5			LONGITUDINAL #9			TRANSVERSE #4			LONGITUDINAL #4			#4 @2	#4 @3	MARK	NO.	LENGTH				
MARK	NO.	LENGTH	MARK	NO.	LENGTH	MARK	NO.	LENGTH	MARK	NO.	LENGTH									
SLAB D												PAD D1								
b5	60	42'-4"	a	166	29'-6"	b4	16	42'-4"	a1	67	29'-6"	85	85	h2	48	42'-10"	271 (PCC)	23920	132	
SLAB H												PAD H1								
b7	20	35'-6"	a7	72	19'-6"	b6	5	35'-6"	a6	29	19'-6"	38	38	h1	24	36'-6"	82 (PCC)	7240	41	
SLAB F												PAD F1								
b13	60	34'-6"	a	40	29'-6"	b12	16	34'-6"	a1 ①	17	29'-6"	66	66	h4	48	33'-6"	190 (PCC)	17570	94	
			a10	41	27'-0"				a11 ①	16	27'-0"									
			a12	41	24'-6"				a13 ①	16	24'-6"									
			a14	9	22'-0"				a15 ①	5	22'-0"									
									① CUT TO FIT AS REQD.											
SLAB E																				
b15	60	33'-0"	a	126	29'-6"	b14	16	33'-0"	a1	52	29'-6"						210 (PCC)	16080	90	
SLAB A												PAD A1								
b	30	29'-6"	a	60	29'-6"	b1	8	29'-6"	a1	25	29'-6"	32	32	h	24	30'-6"	100 (PCC)	8620	49	
SLAB G												PAD G1								
b9	20	29'-6"	a4	60	19'-6"	b8	5	29'-6"	a5	25	19'-6"	32	32	h	24	30'-6"	67 (PCC)	6050	34	
																				SLAB J
																				20 (PCC)
SLAB B																				
b11	31	30'-6"	a9	62	30'-11"	b10	9	30'-6"	a8	26	30'-11"						109 (PCC)	8230	48	
SLAB C												PAD C1								
b11	31	30'-6"	a9	62	30'-11"	b10	9	30'-6"	a8	26	30'-11"	33	33	h3	24	31'-6"	110 (PCC)	9290	54	
																TOTALS	1139 (PCC)	97000	542	20 (PCC)

NOTE: All Reinforcement Shall be Epoxy Coated. Min. Lap 1'-11"



SCHEMATIC KEY PLAN

SCHEMATIC KEY PLAN
BRIDGE APPROACH PAVEMENT
STANDARD 2442 (MODIFIED)
F.A. ROUTE 317 PEORIA COUNTY

Sht. #2 of 5

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	*	PEORIA	—	137
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

* 13WB RS-2; 14WB RS

Structure No. 072-0168

SLAB D
271 SQ YDS.

SLAB H
82 SQ YDS.

2¾" @ 50° F.

4" Joint Filler Art. 715.10

Along Prop. Str. 072-0168 BASELINE

30'-0" Bridge Approach Pavement

20'-0" Bridge Approach Pavement

4" P.J.S.

See Detail A

See Detail B

PROP. PAVT.

Bonded Construction Joint

a_1 3½" cl. a 15" Slab

15" Slab a_6 3½" cl. a_7

3" Min. Cl.

2" cl.

Sub-base Granular Mat'l., Type A. 4" (Typical)

10"

Concrete Pad

2" cl.

See DH, F-F

Concrete Pad

2'-6"①

24'-6"①

2'-6"①

2'-6"①

14'-6"①

2'-6"①

3'-0"

3'-0"

29'-6"①

19'-6"①

10 mil. polyethylene bond breaker on steel trowel finish.

10 mil. polyethylene bond breaker on steel trowel finish

SECTION C-C

① Stagger #9 a_6, a_7 bars as shown on plan - full width

Joint Filler 4" Art. 715.10

4"

1"

¼"

TOP OF PAVT.

Cut Notches and Fill w/ Epoxy Such as PL 400

¾"

2"

10"

DETAIL B

1½"

1'-3" 1'-3"

27'-0" a bar
17'-0" a_7 bar
29'-6" a bar
19'-6" a_7 bar

1'-3" 1'-3"

#9a & a7 BARS

Keyed Longitudinal Construction Joint in accordance with details shown on Standard 2323.

#5 Tie Bars at 2'-6" cts.

15"

#9 at 6" cts. 3"3" #9 at 6" cts.

OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.

Varies From 83'-2½" to 80'-8⅜" at Abutment.

#4 a_1 bars at 15" cts. (Top)

6'-0" Shldr.

15" Slab

6'-0" Shldr

3½" cl.

#4 b_4 bars @ 4'-0" cts.

2" cl.

#5 b_5 bars @ 12" cts.

Sub-base Granular Mat'l. Type A. 4"

1'-6" Typ.

#9 a bars at 6" cts. (Bottom)

SECTION D-D

See Sht. #1 of 5 For Reinf. Schedule and Estimate of Quantities Table.

See Sht #1 of 5 For Bridge Approach Pavt. Schematic Key Plan.

8x2-#4 b_4 bars at 4'-0" cts. (Top)

30x2-#5 b_5 bars at 12" cts. (Bottom)

5-#4 b_6 bars at 4'-0" cts. (Top)

20-#5 b_7 bars at 12" cts. (Bottom)

Min. Lap

1'-11"

6" Typ.

67-#4 a_1 at 15" cts. (Top)

166-#9 a at 6" cts. (Bottom)

BASELINE Sta. 196+36.59

SLAB D

SLAB H

G

G

& West Bound Lanes

STATION 506+49.72

E E

C C

6'-0" PAD HI

6'-0" PAD DI

F F

D

92°

18'-0"

18'-0"

29-#4 a_6 at 15" cts. (Top)

72-#9 a_7 at 6" cts. (Bottom)

30'-0" Along Prop. Str. 072-0168 BASELINE

20'-0" Along Prop. Str. 072-0168 BASELINE

PLAN

Slab H Begins at Sta. 195+85.03 Along BASELINE

See DH, A

4" Preformed Joint Seal

SLAB D SLAB H

#4 a_2 bars 12" cts. #4 a_3 bars 5'-8" long 12" cts.

1½" cl.

10"

2" cl.

15" Slab

#5 h_2 bars 6" cts. 2 lengths per Line

2" Cl.

SECTION G-G - THRU CONC. PAD DI

See DH, B

#4 a_3 bars 5'-8" long 12" cts. PROP. PAVT.

SLAB H

#4 a_2 bars 12" cts.

1½" cl.

10"

2" cl.

#5 h_1 bars 6" cts.

2" cl.

2'-0" min.

t = Conc Surf. Cse 1¾" Bit. Binder & 10" PCC Base Cse

1¾" Bit.

SECTION F-F - THRU CONC. PAD HI

4"

3/16"

¼"

4" Min.

PREFORMED JOINT SEAL (4")

2¾" at 50° F.

4" Preformed Joint Seal Full Width

5½" min.

½"

½"

1¾" at 50° F.

DETAIL A

#5(E) bars @ 12" cts. (By Bridge Contractor)

Varies

at right angle to abut.

6"

Bk Wall Elevation Varies From El. 509.48 to El. 507.77

SECTION E-E

(Jointed Abutments)

GENERAL NOTES

The cost of tie bars, Preformed joint Seal, Joint Filler 4" w/Epoxy, 10 mil. polyethylene bond breaker, sub-base, concrete Pads (including reinforcement and excavation) shall be considered as included in the unit cost of the BRIDGE APPROACH PAVEMENT.

Width of Bridge Approach Slab shall be determined before the reinforcement bars are fabricated.

Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53, Grade 60 and shall be EPOXY COATED.

DESIGN STRESSES

fy = 60,000 p.s.i.
f'c = 3,500 p.s.i.
n = 8.5

4"

6" 5'-8" 6"

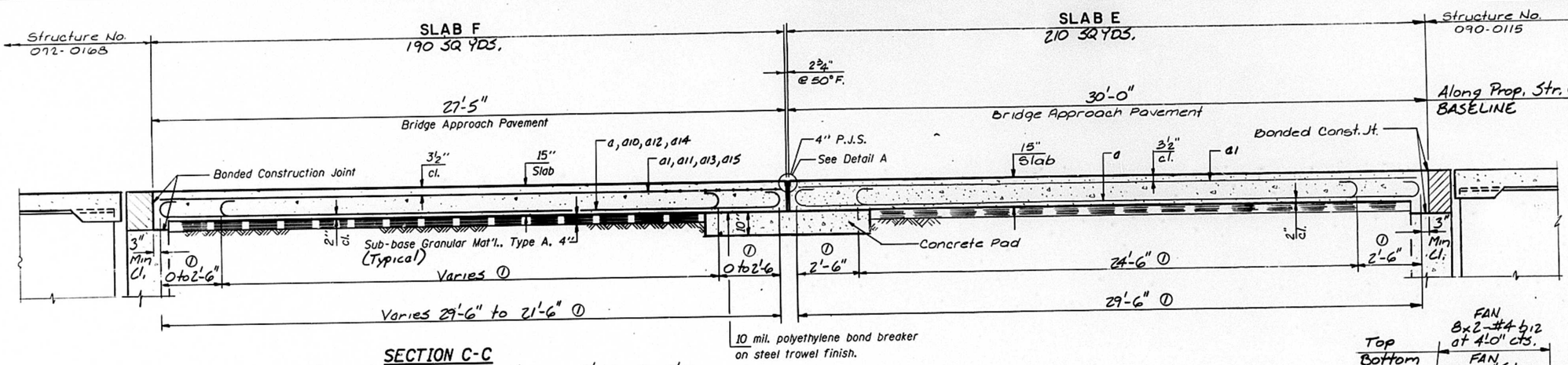
BAR a_2

SLABS D & H

BRIDGE APPROACH PAVEMENT
STANDARD 2442 (MODIFIED)
F.A. ROUTE 317 PEORIA COUNTY

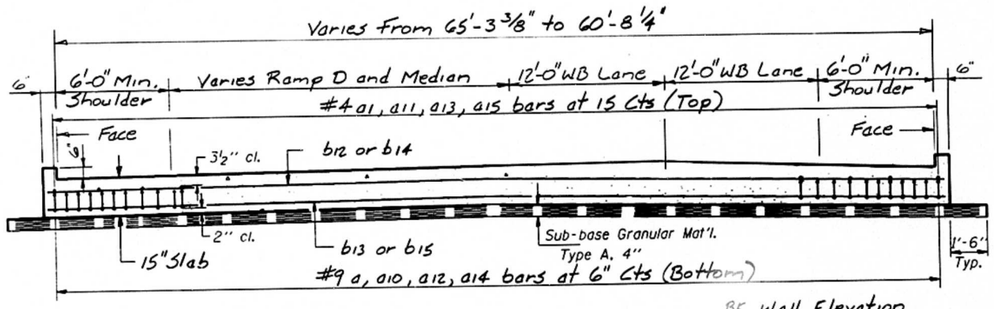
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	*	PEORIA	—	138
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

* 13W¢ RS-2 ; 14W¢ RS

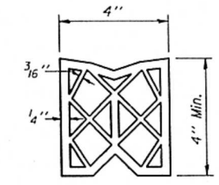


SECTION C-C

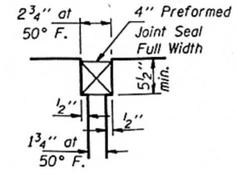
① Stagger #9 a, a10, a12, a14 bars as shown on plan - Full Width



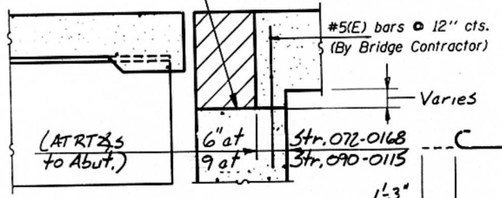
SECTION D-D



PREFORMED JOINT SEAL (4")



DETAIL A



SECTION E-E (Jointed Abutments)

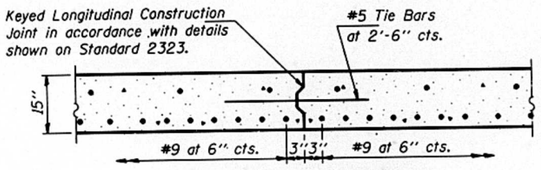
GENERAL NOTES

The cost of tie bars, Preformed joint Seal, 10 mil. polyethylene bond breaker, sub-base, concrete pad (including reinforcement and excavation) shall be considered as included in the unit cost of the BRIDGE APPROACH PAVEMENT.

Width of Bridge Approach Slab shall be determined before the reinforcement bars are fabricated.

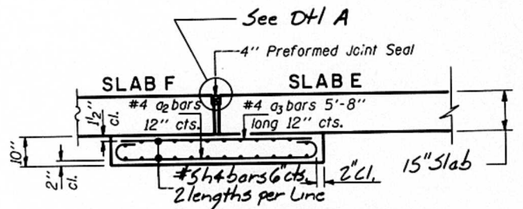
Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53, Grade 60 and shall be EPOXY COATED

See Sht #1 of 5 For Reinf. Schedule and Estimate of Quantities Table.
See Sht #1 of 5 For Bridge Approach Pavt. Schematic Key Plan

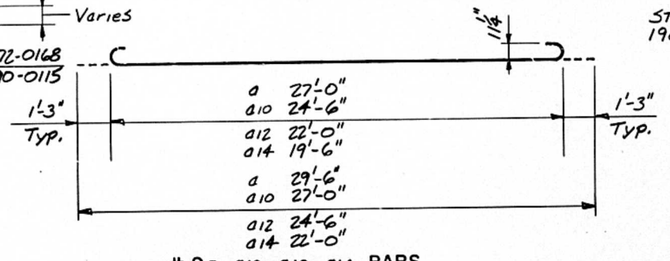


OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.



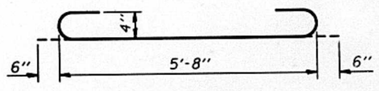
SECTION G-G - THRU CONC. PAD F1



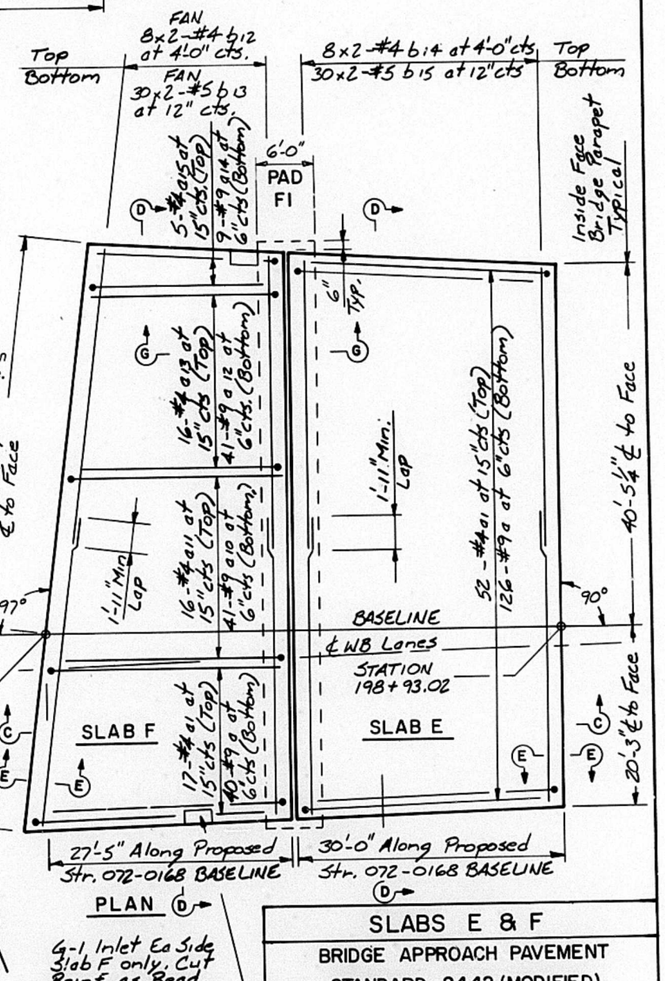
#9 a, a10, a12, a14 BARS

DESIGN STRESSES

fy = 60,000 p.s.i.
f'c = 3,500 p.s.i.
n = 8.5



BAR a2



PLAN D

G-1 Inlet Ea Side Slab F only, Cut Reinf. as Regd. See Storm Sewer Sheets for Location

SLABS E & F

BRIDGE APPROACH PAVEMENT
STANDARD 2442 (MODIFIED)
F.A. ROUTE 317 PEORIA COUNTY

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	*	PEORIA	—	139
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

* 13W & RS-2 ; 14W & RS

Sht. #4 of 5 Shts.

Structure No. 072-0167

Along ℄ East Bound Lanes

SLAB A
100 SQ YDS.

SLAB G
67 SQ YDS.

SLAB J
BRIDGE APPROACH PAVT CONNECTOR
20 SQ YDS.

Exist Pavement W/ Prop. Resurfacing

30'-0" Bridge Approach Pavement

20'-0" Bridge Approach Pavement

2¾" @ 50° F.

4" Joint Filler Art. 715.10

6'-0"

4" P.J.S.

See Detail A

See Detail B

Bonded Construction Joint

a_1 3½" cl. a 15" Slab

15" Slab a5 3½" cl. a4

3" Min cl.

2'-6" ①

24'-6" ①

2'-6" ①

2'-6" ①

14'-6" ①

2'-6" ①

3'-0"

3'-0"

29'-6" ①

19'-6" ①

Sub-base Granular Mat'l., Type A. 4" (Typical)

2" cl.

10"

2" cl.

Concrete Pad

Concrete Pad

See Dtl, F-F

10 mil. polyethylene bond breaker on steel trowel finish.

10 mil. Polyethylene Bond Breaker on Steel Trowel Finish

SECTION C-C

① Stagger #9 a, a4 bars as shown on plan - full width

Joint Filler 4" Art. 715.10

Cut Notches & Fill W/ Epoxy Such as PL400

4" 1" 1¼" TOP OF PAVT. 3¼" 2" 10"

DETAIL B

NOTE:
See Sht. #1 of 5 for Reinf. Schedule and Estimate of Quantities Table.
See Sht. #1 of 5 for Bridge Approach Pavt Schematic Key Plan.

11¼"

1'-3" 27'-0" 1'-3" a bar
1'-3" 17'-0" a4 bar
29'-6" a bar
19'-6" a4 bar

#9 a & a4 BARS

Keyed Longitudinal Construction Joint in accordance with details shown on Standard 2323.

#5 Tie Bars at 2'-6" cts.

15"

#9 at 6" cts. 3"/3" #9 at 6" cts.

OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.

5 - #4 b_8 bars at 4'-0" cts (Top)
20 - #5 b_9 bars at 12" cts (Bottom)

℄ West Abutment Local Tangent See Bridge Plans

Bridge App. Pavt. Connector Begins at Sta. 606+39.65

6'-0" PAD GI

STATION 606+96.21 ▶D

6'-0" Concrete Pad PAD A1

30'-0" Shoulder Width 3'-0" | 24'-0" Rdwy Width | Shoulder Width 3'-0"

#4 a_1 bars at 15" cts. (Top)

15" Slab

3½" cl. #4 b_1 bars @ 4'-0" cts.

2" cl. #5 b bars @ 12" cts. Sub-base Granular Mat'l. Type A. 4" 1'-6" Typ.

#9 a bars at 6" cts. (Bottom)

SECTION D-D

See Dtl. A

4" Preformed Joint Seal

SLAB A SLAB G

#4 a_2 bars 12" cts. 1½" cl.

#4 a_3 bars 5'-8" long 12" cts.

15" Slab

10" 2" cl.

#5 h bars 6" cts. 2" cl.

SECTION G-G - THRU CONC. PAD A1

15'-0" 25 - #4 a_1 bars at 15" cts. (Top)

15'-0" 60 - #9 a bars at 6" cts. (Bottom)

B - #4 b_1 bars at 4'-0" cts. (Top)

℄ East Bound Lanes

30 - #5 b bars at 12" cts. (Bottom)

90°

C E G F

25 - #4 a5 bars at 15" cts. (Top)
20 - #9 a4 bars at 6" cts. (Bottom)

See Dtl. B

6'-0" PCC Bridge App. Pavt. Connector

#4 a_3 bars 5'-8" long 12" cts.

SLAB G

#4 a_2 bars 12" cts. 1½" cl.

10" 2" cl.

#5 h bars 6" cts. 2" cl.

12'-0" min.

SECTION F-F - THRU CONC. PAD G1

D 30'-0" Along ℄ E.B. Lanes SLAB A

6" Typ.

20'-0" Along ℄ E.B. Lanes SLAB G

Exist PCC Base W/ Prop. Bit Binder and Surface Courses

#10 x 18" Long deformed bars set in non-shrink Grout at 12" cts.

PLAN

6'-0" Wide PCC Bridge Approach Pavt. Connector SLAB J

4"

6" 5'-8" 6"

BAR a_2

4" 3/16" ¼" 4" Min.

PREFORMED JOINT SEAL (4")

2¾" at 50° F. 4" Preformed Joint Seal Full Width 5½" min. ½" ½" 1¾" at 50° F.

DETAIL A

#5(E) bars @ 12" cts. (By Bridge Contractor)

at right angle to abut. 6" Varies due to crown

LEVEL

SECTION E-E

(Jointed Abutments)

GENERAL NOTES

The cost of tie bars, Preformed joint Seal, Joint Filler 4" w/ Epoxy 10 mil. polyethylene bond breaker, sub-base, concrete Pads (including reinforcement and excavation) shall be considered as included in the unit cost of the BRIDGE APPROACH PAVEMENT.

Width of Bridge Approach Slab shall be determined before the reinforcement bars are fabricated.

Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53, Grade 60 and shall be EPOXY COATED.

The contract Unit Price "Sq. Yd." for BRIDGE APPROACH PAVEMENT CONNECTOR (PCC) shall include the placing of all Required Materials to Construct a complete Connector of the Type Specified.

DESIGN STRESSES

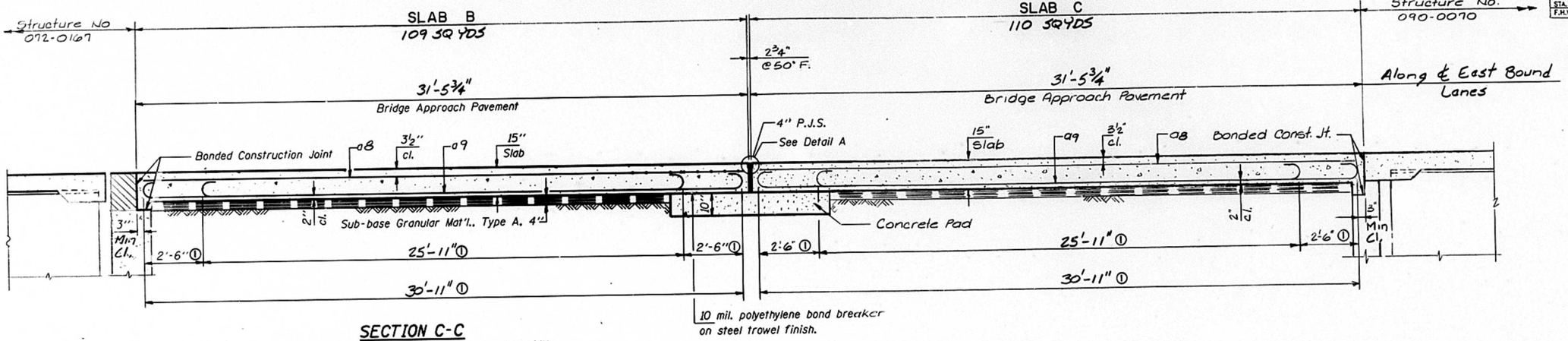
f_y = 60,000 p.s.i.
f'_c = 3,500 p.s.i.
n = 8.5

SLABS A, G & J
BRIDGE APPROACH PAVEMENT
STANDARD 2442 (MODIFIED)
F.A. ROUTE 317 PEORIA COUNTY

Sht #5 of 5 Sheets

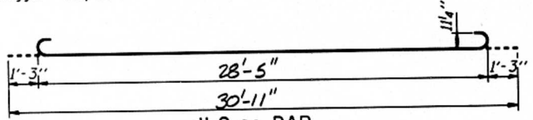
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	*	PEORIA	—	140
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

* 13W & RS-2; 14W & RS



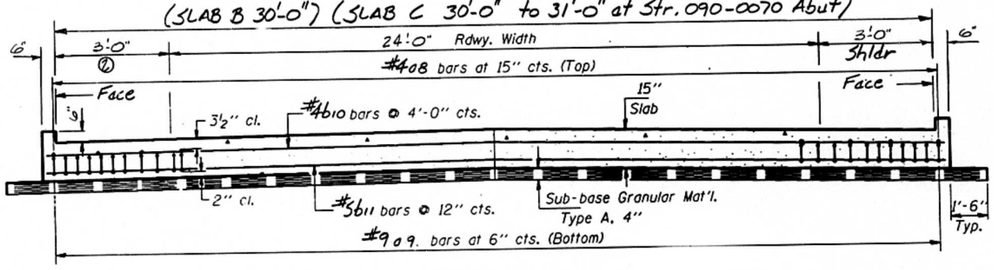
SECTION C-C

① Stagger #9a9 bars as shown on plan - full width



#9 a9 BAR

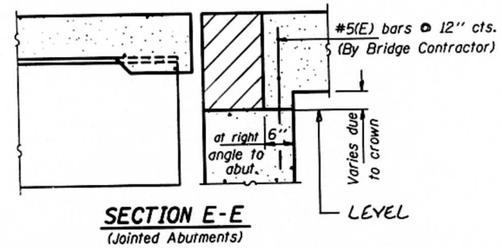
(SLAB B 30'-0") (SLAB C 30'-0" to 31'-0" at Str. 090-0070 Abut)



② Shldr. Width on Slab C Varies From 3'-0" to 4'-0" at Str. 090-0070 Abut. Lt. Side Only.

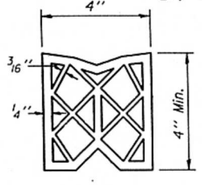
SECTION D-D

(LOOKING UPSTATION)

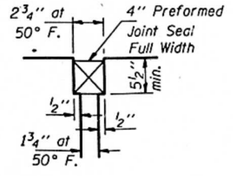


SECTION E-E

(Jointed Abutments)



PREFORMED JOINT SEAL (4")



DETAIL A

GENERAL NOTES

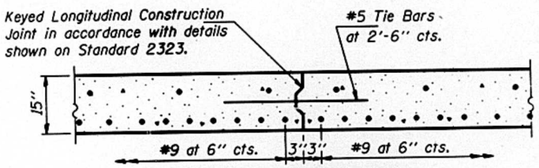
The cost of tie bars, Preformed joint Seal, 10 mil. polyethylene bond breaker, sub-base, concrete pad (including reinforcement and excavation) shall be considered as included in the unit cost of the BRIDGE APPROACH PAVEMENT.

Width of Bridge Approach Slab shall be determined before the reinforcement bars are fabricated.

Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53, Grade 60 and shall be EPOXY COATED

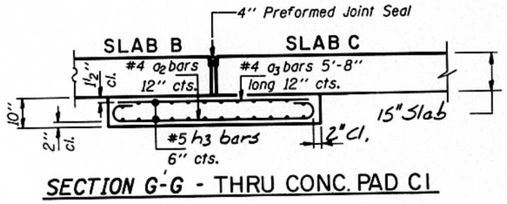
DESIGN STRESSES

fy = 60,000 p.s.i.
f'c = 3,500 p.s.i.
n = 8.5

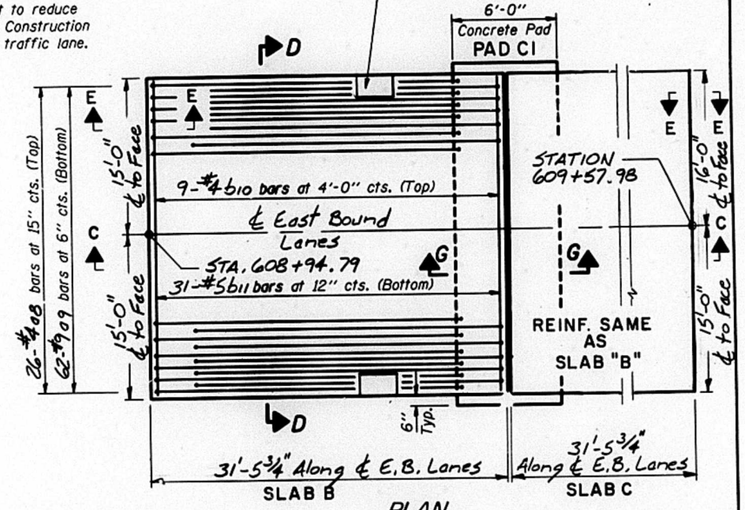


OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

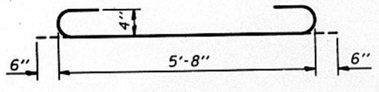
As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.



SECTION G-G - THRU CONC. PAD C1



PLAN

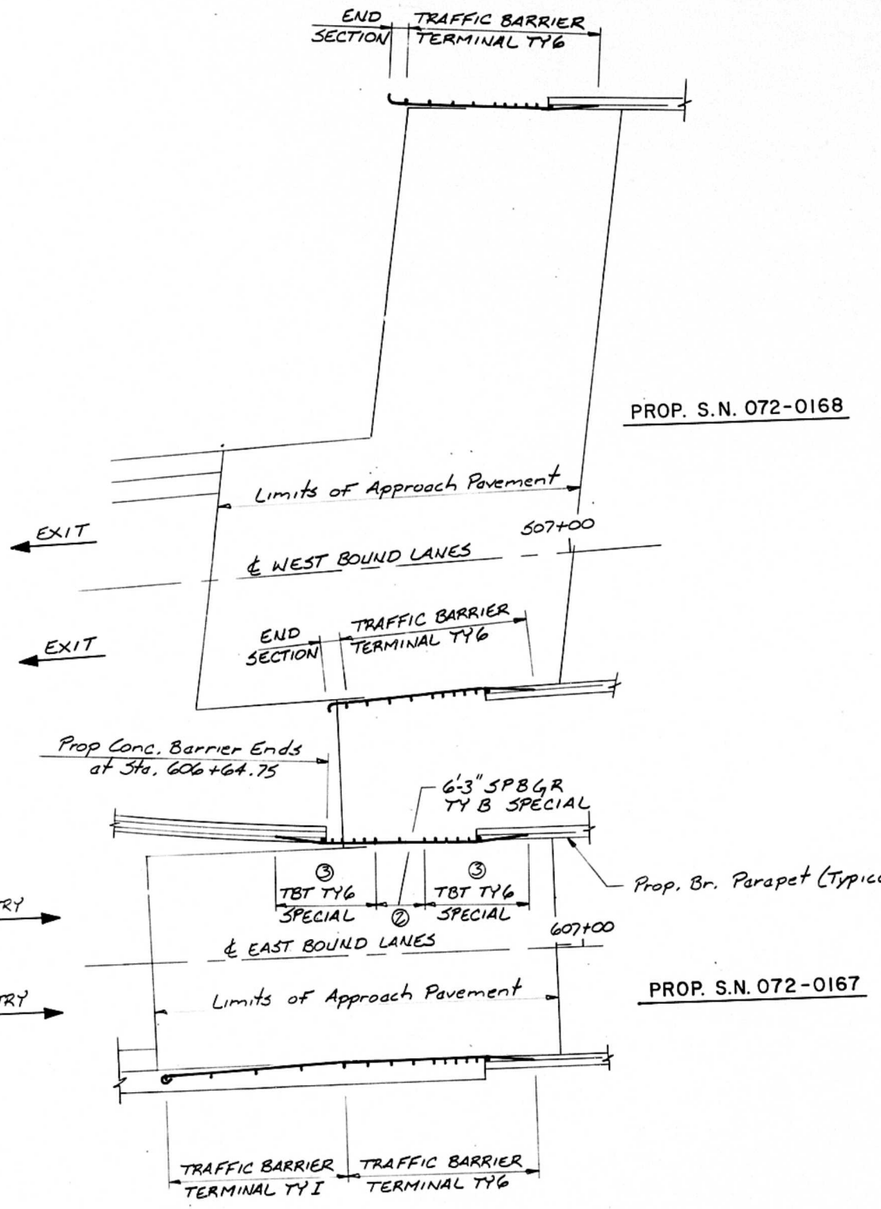


BAR a2

SLABS B & C
BRIDGE APPROACH PAVEMENT
STANDARD 2442 (MODIFIED)
F.A. ROUTE 317 PEORIA COUNTY

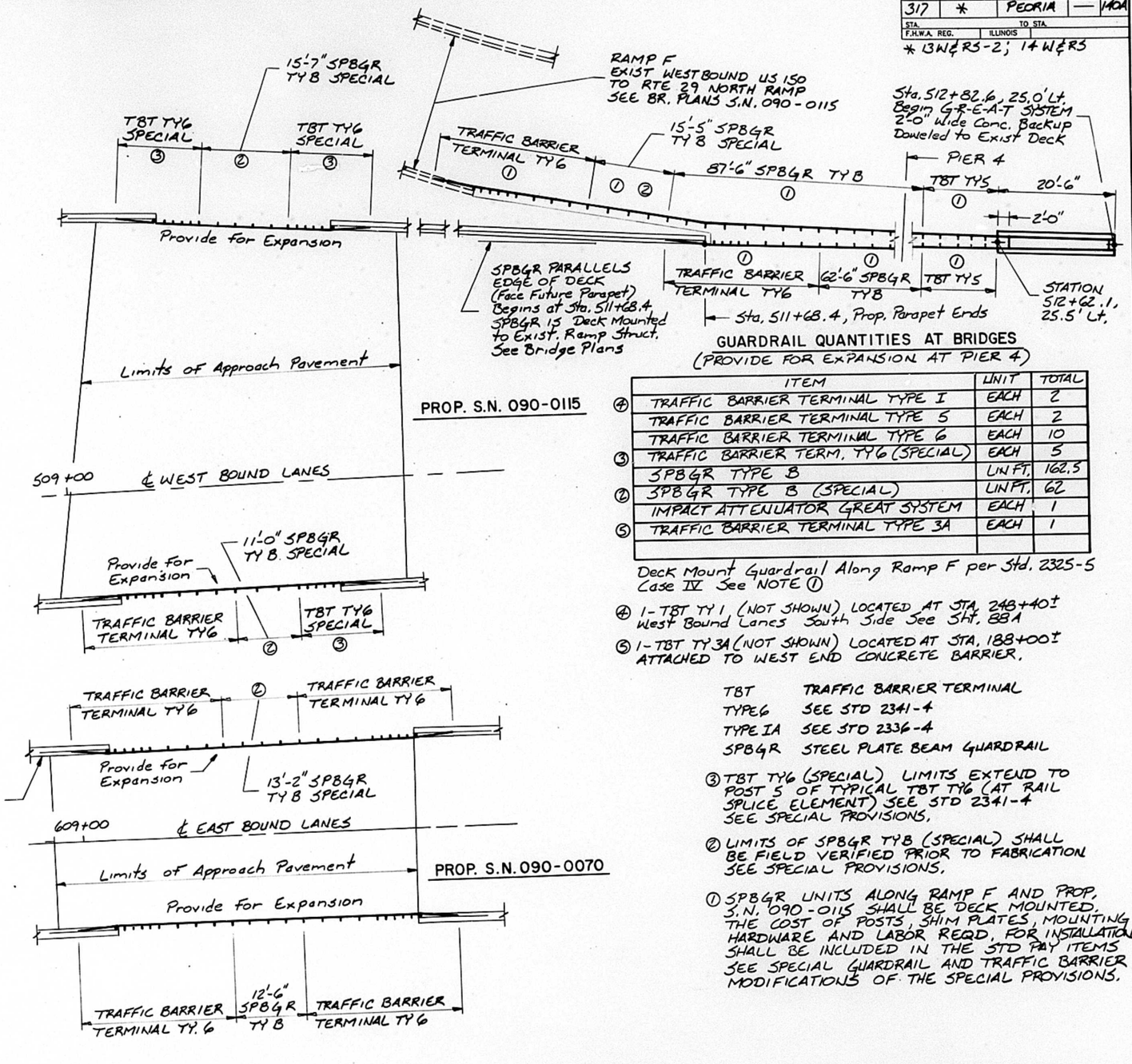
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	*	PEORIA	—	140A
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

* 13W&RS-2; 14W&RS



PROP. S.N. 072-0168

PROP. S.N. 072-0167



PROP. S.N. 090-0115

PROP. S.N. 090-0070

GUARDRAIL QUANTITIES AT BRIDGES
(PROVIDE FOR EXPANSION AT PIER 4)

	ITEM	UNIT	TOTAL
④	TRAFFIC BARRIER TERMINAL TYPE I	EACH	2
	TRAFFIC BARRIER TERMINAL TYPE 5	EACH	2
	TRAFFIC BARRIER TERMINAL TYPE 6	EACH	10
③	TRAFFIC BARRIER TERM. TY6 (SPECIAL)	EACH	5
	SPBGR TYPE B	LIN FT.	162.5
②	SPBGR TYPE B (SPECIAL)	LIN FT.	62
	IMPACT ATTENUATOR GREAT SYSTEM	EACH	1
⑤	TRAFFIC BARRIER TERMINAL TYPE 3A	EACH	1

Deck Mount Guardrail Along Ramp F per Std. 2325-5 Case IV See NOTE ①

④ 1-TBT TY I (NOT SHOWN) LOCATED AT STA. 248+40± West Bound Lanes South Side See Sht. 88A

⑤ 1-TBT TY 3A (NOT SHOWN) LOCATED AT STA. 188+00± ATTACHED TO WEST END CONCRETE BARRIER.

TBT	TRAFFIC BARRIER TERMINAL
TYP6	SEE STD 2341-4
TYP IA	SEE STD 2336-4
SPBGR	STEEL PLATE BEAM GUARDRAIL

③ TBT TY6 (SPECIAL) LIMITS EXTEND TO POST 5 OF TYPICAL TBT TY6 (AT RAIL SPLICE ELEMENT) SEE STD 2341-4 SEE SPECIAL PROVISIONS.

② LIMITS OF SPBGR TYB (SPECIAL) SHALL BE FIELD VERIFIED PRIOR TO FABRICATION SEE SPECIAL PROVISIONS.

① SPBGR UNITS ALONG RAMP F AND PROP. S.N. 090-0115 SHALL BE DECK MOUNTED. THE COST OF POSTS, SHIM PLATES, MOUNTING HARDWARE AND LABOR REQD. FOR INSTALLATION SHALL BE INCLUDED IN THE STD PAY ITEMS SEE SPECIAL GUARDRAIL AND TRAFFIC BARRIER MODIFICATIONS OF THE SPECIAL PROVISIONS.

GUARDRAIL DETAILS AT PROPOSED BRIDGES

10 5 0 10

GUARDRAIL DETAILS AT PROPOSED BRIDGES

F.A. ROUTE 317 PEORIA COUNTY

F.A. RTE.	SECTION	COUNTY	SHEETS	NO.
317	15B-1-7	PEORIA		200
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 1 of 16

Bench Mark: U.S.C. & G.S. Z-234, El. 473.874
Standard brass Disk set vertically in East face of Westernmost Pier of East Bound McClugage Bridge. Stamped Z-234 1960

Existing Structure: All existing substructure will be reused. Most of the existing girders will be reused with a new poured in place concrete deck & parapets.

DESIGN STRESSES

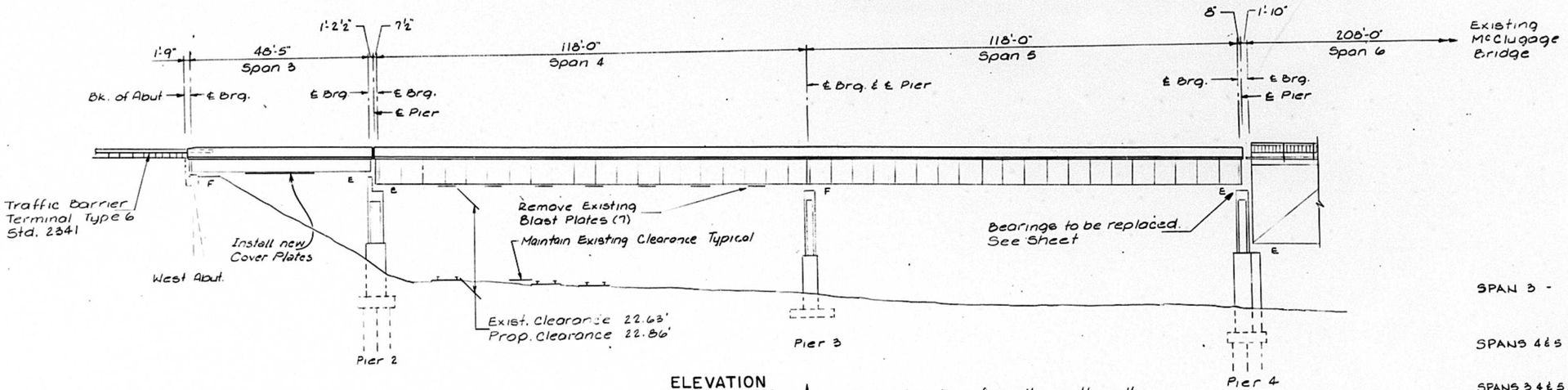
f'_c = 3500 psi (Concrete)
f_y = 60,000 psi (Reinforcement)
f_s = 18,150 psi (Exist. A-7 Structural Steel)
f_s = 20,000 psi (M270 Grade 36) New Structural Steel Only

DESIGN SPECIFICATIONS

1989 AASHTO (14th Edition)
1990 & 1991 Interims

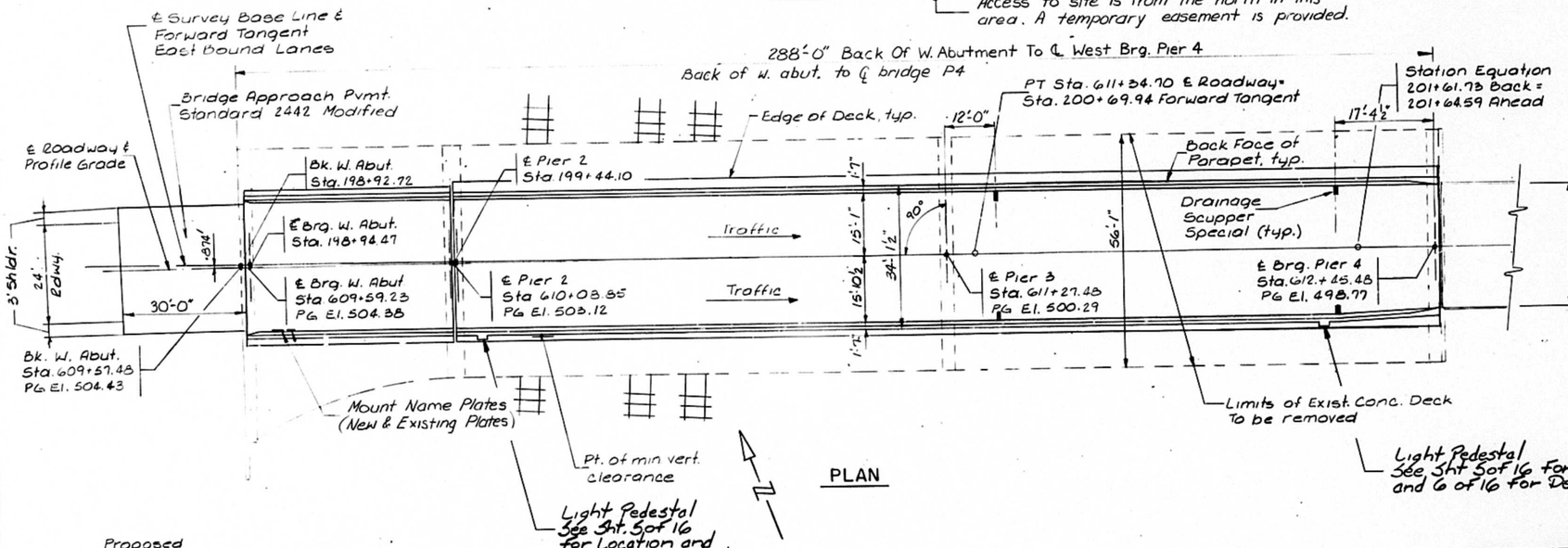
LOADING HS 20-44

Allow 25#/sq. ft. for future wearing surface

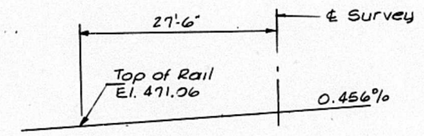


ELEVATION

Access to site is from the north in this area. A temporary easement is provided.



PLAN



RAILROAD LOCAL PROFILE

(Looking East)

EXISTING STRUCTURES

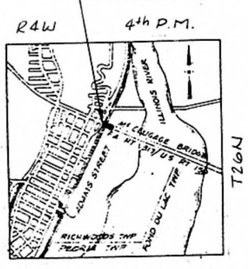
SPAN 3 - Simple span concrete deck on steel wide flange beams supported by pile bent abutment and gravity style pier.

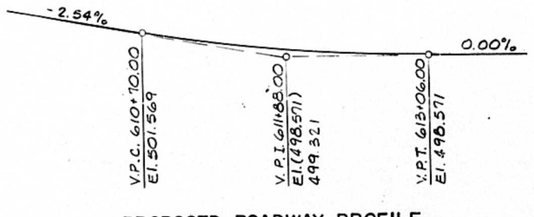
SPANS 4 & 5 - Two span concrete deck on steel riveted plate girders supported by gravity style piers.

SPANS 3, 4 & 5 - The existing concrete deck is to be removed and replaced. Most of the existing steel beams, steel riveted plate girders and steel bearings are to be reused. The existing bearings at Pier 4 will not be reused.

Note: These lanes will be closed to traffic during reconstruction. Structure No. 090-0115 will be rehabilitated prior to this structure.

FOR SLIPFORM PARAPET OPTION
SEE SHEET 126 OF THE RDWY PLANS
& CHECK SHEET #37 (RECURRING SPECIAL PROVISIONS)





PROPOSED ROADWAY PROFILE

CURVE DATA - P.G. LINE

P.I. Sta. 608+51.05
Δ = 1°49'04.61"
D = 0°19'13.54"
R = 17881.00'
L = 567.35'
E = 2.25'
T = 283.70'
S.E. = None

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
Engineer of Bridges and Structures

FRANK L. TILEY 61-3106 LICENSED STRUCTURAL ENGINEER OF ILLINOIS 12/93

Frank L. Tiley
ILLINOIS STRUCTURAL # 3100
EXPIRES 11-30-94

RALPH HAHN AND ASSOCIATES, INC.
ENGINEERS · ARCHITECTS · CONSULTANTS
1320 SOUTH STATE STREET
SPRINGFIELD, ILLINOIS 62704

GENERAL PLAN & ELEVATION
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611+27.48
STRUCTURE NO. 090-0070

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		201
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 2 of 16

INTERIOR GIRDER MOMENT TABLE				
LOCATION		0.5 SPAN 3	0.4 SPAN 4 0.6 SPAN 5	PIER 3
Is	(in^4)	114400	69248	126986
Ic	(in^4)	29155	144464	
Ss	(in^3)	654	1649	2953
Sc	(in^3)	919.5	2090	
DL	(K/F)	1.184	1.144	1.529
Mdl	(F-K)	347	1015	2918
fs DL NON-COMP	(KSI)	6.37	7.39	11.86
sdl	(K/F)	0.402	0.385	
Msdl	(F-K)	118	424	
Mll	(F-K)	518	1227	1141
Mimp	(F-K)	149	253	235
M (TOTAL)	(F-K)	785	1904	1376
fs (COMP.)	(KSI)	10.25	10.93	5.59
fs (TOTAL)	(KSI)	16.62	18.32	17.45
VR	(K)	64.7	69	

INTERIOR GIRDER REACTION TABLE					
LOCATION		W. ABT. PIER 2(W)	PIER 2(E)	PIER 3	PIER 4(W)
R DL	(K)	38.4	65.5	229.9	65.5
R LL	(K)	50.2	56.5	95.7	56.5
Impact	(K)	14.4	11.6	19.7	11.6
R TOTAL	(K)	103	133.6	345.3	133.6

Is AND Ss ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING fs (TOTAL).
Ic AND Sc ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING fs (TOTAL).
Vr IS THE MAXIMUM LIVE LOAD PLUS IMPACT SHEAR RANGE IN THE SPAN.

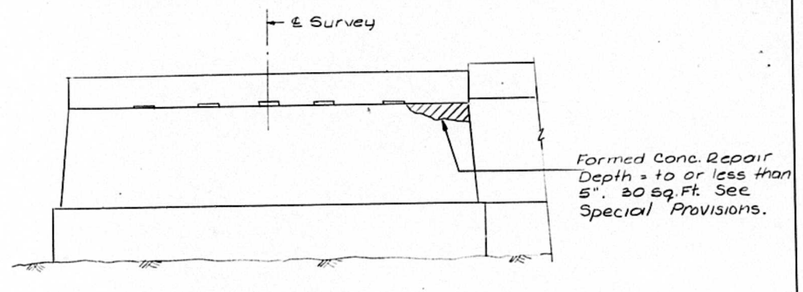
GENERAL NOTES

1. FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" DIAMETER. OPEN HOLES 13/16" DIAMETER. UNLESS OTHERWISE NOTED.
2. CALCULATED WEIGHT OF STRUCTURAL STEEL - 14090 LBS.
3. ROADWAY EXPANSION GUARDS SHALL BE ASSEMBLED IN THE PROPER POSITION WITH THE ENDS IN PLACE AND SHALL BE LEFT ASSEMBLED FOR SHOP INSPECTION.
4. THE ROADWAY EXPANSION PLATES SHALL BE FLAME CUT AS PROVIDED IN ARTICLE 507.04(1) OF THE STANDARD SPECIFICATIONS.
5. EXPANSION JOINT PLATES AND ATTACHED BARS SHALL BE SHOP PAINTED WITH THE LEAD AND CHROMATE-FREE ALKYD PRIMER.
6. FIELD WELDING OF CONSTRUCTION Accessories WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
7. ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OR CROSS FRAMES OVER SUPPORTS.
8. THE STRUCTURAL STEEL BEARING PLATES OF THE ELASTOMERIC BEARING ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 36.
9. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.
10. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
11. EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD - 4,080 LBS. AND 3/4" DIAMETER X 12" HOOKED BOLTS.
12. ALL CONTACT SURFACES OF JOINTS FOR THE BOLTED SPLICES, DIAPHRAGMS, AND LATERAL BRACINGS SHALL BE FREE OF PAINT OR LACQUER.
13. THE THREE COAT LEAD AND CHROMATE-FREE ALKYD PAINT SYSTEM SHALL BE USED FOR FIELD PAINTING OF NEW AND EXISTING STRUCTURAL STEEL. THE FINAL FINISH COAT SHALL MATCH EXISTING STRUCTURAL STEEL COLOR. CLEANING AND PAINTING OF EXISTING STRUCTURAL STEEL SHALL BE DONE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES, PARTIAL REMOVAL (MODIFIED SSPC SP3) SURFACE PREPARATION".

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
*	Removal of Existing Concrete Deck	Each	1		1
	Neoprene Expansion Joint, 2 1/2"	Lin. Ft.	38		38
	Class X Concrete, Superstructure	Cu. Yds.	363		363
*	Protective Coat	Sq. Yds.	1205		1205
*	Elastomeric Bearing Assembly, Type I	Each		5	5
	Furnishing & Erecting Structural Steel	Pounds	14090		14090
	Stud Shear Connectors	Each	3090		3090
*	Adjust & Reposition Bearings	Each		2	2
*	Jack & Remove Existing Bearings	Each		5	5
*	Structural Steel Removal	Pounds	221,140		221,140
*	Cleaning & Painting Existing Steel Bridge	L. Sum	1		1
	Reinforcement Bars, Epoxy Coated	Pounds	101720		101720
	Name Plates	Each	1		1
	Bridge Deck Grooving	Sq. Yds.	927		927
	Reinforced Neoprene Expansion Joint Treatment	Lin. Ft.	33		33
	Drainage Scuppers, Special	Each	4		4
*	Formed Concrete Repair, Depth Equal to or Less than 5"	Sq. Ft.		30	30
*	Bituminous Surface Removal	Sq Yds	100		100
*	Rivet Removal and Replacement	Each	100		100
*	Drainage System	L. Sum		1	1
	Bituminous Concrete Surface Course, Mix D, Class I Type 1	Tons	8.4		8.4
	Fabric Formed Concrete Revetment Mat	Sq Yds		16	16
*	Power Tool Cleaning Residue Containment and Disposal	L.Sum	1		1

* See Special Provisions



ELEVATION - PIER 2
(Looking West)

STATION 611+27.48
REBUILT 19[illegible] BY
STATE OF ILLINOIS
F.A. RT. 317 SEC. 15B-1-7
F.A. PROJ.
LOADING HS 20
STR. NO. 090-0070

LETTERING FOR NAME PLATE
See Standard 2113

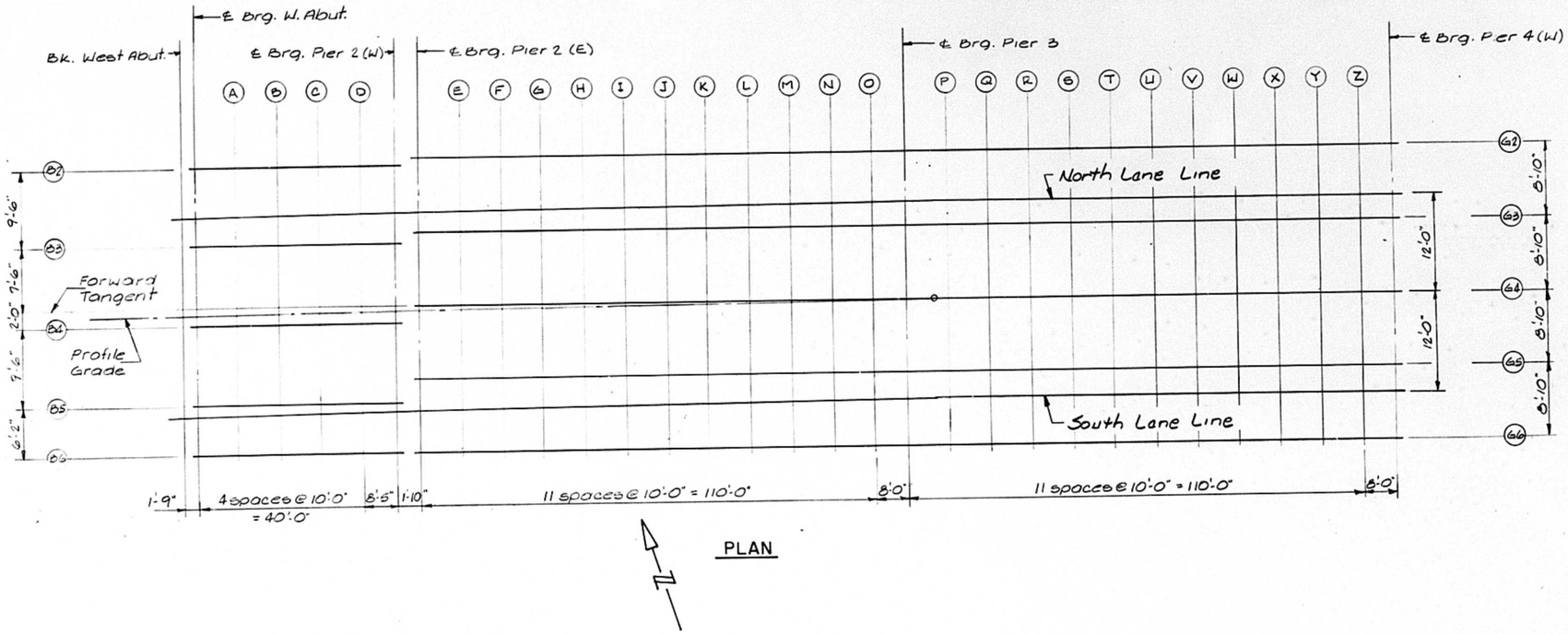
Note: Existing Name Plate to be removed, cleaned and relocated adjacent to new Name Plate. (Cost incidental)

GENERAL NOTES & BILL OF MATERIAL
McCLUGAGE BRIDGE APPROACHES
(EASTBOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611+27.48
STRUCTURE NO. 090-0070

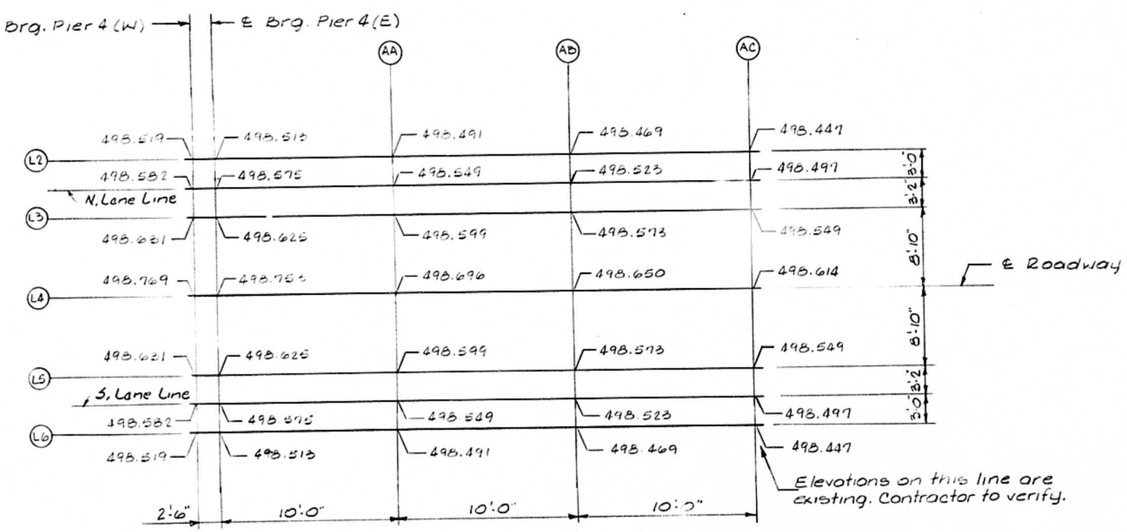
Sheets 201 Thru 300 (Set 3 of 4)

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		22
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS			

Sheet 3 of 16



PLAN



PLAN

Existing McClugage Bridge

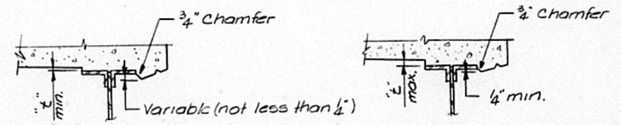
COLD MILLING NOTES

1. Existing McClugage bridge deck consists of 1¾" asphalt overlay on concrete filled steel grid.
2. East of ℄ Brg. Pier 4 (E) the existing bridge deck has a 1" circular crown.
3. Elevations shown East of ℄ Brg Pier 4 (E) are elevations to be achieved by removal of all existing asphalt and replacement with Bituminous Surface Course Mix D, Class I, Type I, to the elevations shown above.

APPROXIMATE TOP OF STEEL ELEVATIONS

	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6
CBWABT	503.02	503.17	503.21	503.07	502.93
A	502.78	502.93	502.98	502.84	502.71
B	502.55	502.69	502.75	502.62	502.48
C	502.31	502.45	502.52	502.40	502.26
D	502.08	502.22	502.29	502.18	502.04
CBRP2W	501.88	502.02	502.10	501.99	501.86
	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6
CLBP2E	501.80	501.94	502.02	502.00	501.87
E	501.55	501.69	501.77	501.75	501.62
F	501.31	501.45	501.53	501.51	501.37
G	501.06	501.20	501.28	501.26	501.12
H	500.82	500.96	501.03	501.01	500.87
I	500.57	500.71	500.78	500.77	500.62
J	500.33	500.47	500.54	500.52	500.37
K	500.08	500.22	500.29	500.28	500.12
L	499.84	499.98	500.04	500.03	499.87
M	499.59	499.73	499.80	499.78	499.62
N	499.35	499.49	499.55	499.54	499.37
O	499.10	499.24	499.30	499.29	499.12
CLBP3	498.90	499.04	499.10	499.09	498.92
P	498.80	498.95	499.00	498.98	498.82
Q	498.69	498.86	498.90	498.88	498.72
R	498.59	498.77	498.79	498.77	498.61
S	498.49	498.67	498.69	498.68	498.51
T	498.38	498.58	498.59	498.55	498.41
U	498.28	498.49	498.49	498.44	498.31
V	498.17	498.39	498.38	498.33	498.20
W	498.07	498.30	498.28	498.22	498.10
X	497.96	498.21	498.18	498.11	498.00
Y	497.86	498.12	498.08	498.01	497.90
Z	497.75	498.02	497.97	497.90	497.79
CLBP4	497.67	497.95	497.89	497.81	497.71

NOTES: 1. ALL ELEVATIONS ARE APPROXIMATE AND SHALL BE FIELD MEASURED PRIOR TO ORDERING STUDS AND FILLET REINFORCING.
2. TOP OF STEEL ELEVATIONS ARE TAKEN AT THE TOP OF THE ANGLES COMPRISING THE TOP FLANGE. ALLOWANCE SHALL BE MADE FOR THE COVER PLATES AT PIER 3 AND THE TOP SPLICE PLATES.

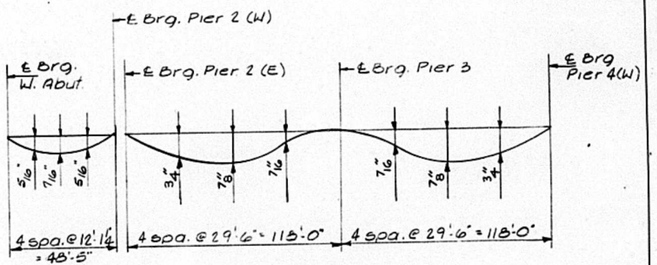


At Minimum Fillet

At Maximum Fillet

METHOD OF DETERMINING FILLET HEIGHTS "t"

After all Structural Steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown at left. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown in tables, minus slab thickness equals fillet heights "t" above the top flange of the beams.



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the Theoretical Grade Elevations Adjusted for Dead Load Deflection.

TOP OF SLAB ELEVATIONS
McCLUGAGE BRIDGE APPROACHES
(EASTBOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611 + 27.48
STRUCTURE NO. 090-0070

TAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		203
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 4 of 16

GIRDER 2

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	61009.603	18.105	502.788	502.788
E	61019.592	18.037	502.536	502.559
F	61029.582	17.976	502.283	502.327
G	61039.572	17.920	502.031	502.090
H	61049.562	17.869	501.778	501.847
I	61059.552	17.825	501.525	501.598
J	61069.542	17.785	501.272	501.342
K	61079.532	17.752	501.024	501.085
L	61089.522	17.724	500.787	500.834
M	61099.512	17.701	500.580	500.591
N	61109.502	17.684	500.344	500.360
O	61119.492	17.673	500.138	500.143
CLBGP3	61127.484	17.668	499.981	499.981
P	61137.480	17.667	499.794	499.801
Q	61147.480	17.667	499.618	499.637
R	61157.480	17.667	499.453	499.488
S	61167.480	17.667	499.299	499.348
T	61177.480	17.667	499.155	499.217
U	61187.480	17.667	499.022	499.093
V	61197.480	17.667	498.900	498.973
W	61207.480	17.667	498.788	498.856
X	61217.480	17.667	498.688	498.744
Y	61227.480	17.667	498.598	498.637
Z	61237.480	17.667	498.519	498.537
CLBGP4	61245.480	17.667	498.463	498.463

NORTH LANE LINE

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	60957.477	12.000	504.240	504.240
CLWABT	60959.227	12.000	504.195	504.195
A	60969.228	12.000	503.941	503.963
B	60979.228	12.000	503.687	503.721
C	60989.228	12.000	503.433	503.466
D	60999.229	12.000	503.179	503.198
CLBP2W	61007.646	12.000	502.965	502.965
CLBP2E	61009.479	12.000	502.919	502.919
E	61019.479	12.000	502.665	502.688
F	61029.479	12.000	502.411	502.454
G	61039.480	12.000	502.157	502.216
H	61049.480	12.000	501.903	501.972
I	61059.480	12.000	501.649	501.722
J	61069.480	12.000	501.395	501.465
K	61079.480	12.000	501.146	501.206
L	61089.480	12.000	500.907	500.954
M	61099.480	12.000	500.679	500.711
N	61109.480	12.000	500.463	500.479
O	61119.480	12.000	500.256	500.261
CLBGP3	61127.480	12.000	500.099	500.099
P	61137.480	12.000	499.913	499.919
Q	61147.480	12.000	499.737	499.755
R	61157.480	12.000	499.571	499.606
S	61167.480	12.000	499.417	499.467
T	61177.480	12.000	499.273	499.336
U	61187.480	12.000	499.140	499.211
V	61197.480	12.000	499.018	499.091
W	61207.480	12.000	498.907	498.974
X	61217.480	12.000	498.806	498.862
Y	61227.480	12.000	498.716	498.755
Z	61237.480	12.000	498.637	498.655
CLBGP4	61245.480	12.000	498.581	498.581

GIRDER 3

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	61009.541	9.272	502.959	502.959
E	61019.535	9.204	502.706	502.730
F	61029.530	9.143	502.454	502.497
G	61039.525	9.087	502.201	502.260
H	61049.520	9.036	501.947	502.016
I	61059.515	8.991	501.694	501.767
J	61069.509	8.952	501.441	501.511
K	61079.504	8.919	501.193	501.253
L	61089.499	8.890	500.955	501.002
M	61099.494	8.868	500.728	500.759
N	61109.489	8.851	500.511	500.527
O	61119.485	8.840	500.305	500.310
CLBGP3	61127.481	8.835	500.148	500.148
P	61137.480	8.833	499.962	499.968
Q	61147.480	8.833	499.786	499.804
R	61157.480	8.833	499.620	499.655
S	61167.480	8.833	499.466	499.516
T	61177.480	8.833	499.322	499.385
U	61187.480	8.833	499.189	499.260
V	61197.480	8.833	499.067	499.140
W	61207.480	8.833	498.956	499.023
X	61217.480	8.833	498.855	498.911
Y	61227.480	8.833	498.765	498.805
Z	61237.480	8.833	498.686	498.705
CLBGP4	61245.480	8.833	498.630	498.630

E ROADWAY

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	60957.474	.000	504.428	504.428
CBWABT	60959.224	.000	504.382	504.382
A	60969.225	.000	504.126	504.149
B	60979.225	.000	503.874	503.908
C	60989.225	.000	503.620	503.653
D	60999.226	.000	503.366	503.384
CBRP2W	61007.643	.000	503.152	503.152
CLBP2E	61009.476	.000	503.105	503.105
E	61019.476	.000	502.851	502.875
F	61029.476	.000	502.597	502.641
G	61039.477	.000	502.343	502.402
H	61049.477	.000	502.089	502.158
I	61059.477	.000	501.835	501.908
J	61069.477	.000	501.581	501.651
K	61079.477	.000	501.332	501.393
L	61089.477	.000	501.094	501.141
M	61099.477	.000	500.866	500.897
N	61109.477	.000	500.649	500.665
O	61119.477	.000	500.443	500.448
CLBGP3	61127.477	.000	500.286	500.286
P	61137.480	.000	500.099	500.105
Q	61147.480	.000	499.923	499.942
R	61157.480	.000	499.758	499.792
S	61167.480	.000	499.604	499.653
T	61177.480	.000	499.460	499.522
U	61187.480	.000	499.327	499.398
V	61197.480	.000	499.205	499.278
W	61207.480	.000	499.093	499.161
X	61217.480	.000	498.993	499.049
Y	61227.480	.000	498.903	498.942
Z	61237.480	.000	498.824	498.842
CLBGP4	61245.480	.000	498.768	498.768

GIRDER 4

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	61009.479	.438	503.098	503.098
E	61019.479	.371	502.846	502.869
F	61029.478	.310	502.593	502.636
G	61039.478	.254	502.339	502.398
H	61049.478	.203	502.086	502.155
I	61059.477	.158	501.833	501.905
J	61069.477	.119	501.580	501.649
K	61079.477	.085	501.331	501.392
L	61089.477	.057	501.093	501.140
M	61099.477	.035	500.866	500.897
N	61109.477	.018	500.649	500.665
O	61119.477	.006	500.443	500.448
CLBGP3	61127.477	.001	500.286	500.286
P	61137.480	.000	500.099	500.105
Q	61147.480	.000	499.923	499.942
R	61157.480	.000	499.758	499.792
S	61167.480	.000	499.604	499.653
T	61177.480	.000	499.460	499.522
U	61187.480	.000	499.327	499.398
V	61197.480	.000	499.205	499.278
W	61207.480	.000	499.093	499.161
X	61217.480	.000	498.993	499.049
Y	61227.480	.000	498.903	498.942
Z	61237.480	.000	498.824	498.842
CLBGP4	61245.480	.000	498.768	498.768

GIRDER 5

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	61009.417	-8.395	502.976	502.976
E	61019.422	-8.462	502.721	502.744
F	61029.426	-8.524	502.466	502.509
G	61039.431	-8.580	502.211	502.270
H	61049.436	-8.630	501.956	502.025
I	61059.440	-8.675	501.701	501.774
J	61069.445	-8.714	501.446	501.516
K	61079.450	-8.748	501.197	501.257
L	61089.455	-8.776	500.958	501.005
M	61099.460	-8.799	500.729	500.761
N	61109.465	-8.816	500.512	500.528
O	61119.469	-8.827	500.306	500.311
CLBGP3	61127.473	-8.832	500.148	500.148
P	61137.480	-8.833	499.962	499.968
Q	61147.480	-8.833	499.786	499.804
R	61157.480	-8.833	499.620	499.655
S	61167.480	-8.833	499.466	499.516
T	61177.480	-8.833	499.322	499.385
U	61187.480	-8.833	499.189	499.260
V	61197.480	-8.833	499.067	499.140
W	61207.480	-8.833	498.956	499.023
X	61217.480	-8.833	498.855	498.911
Y	61227.480	-8.833	498.765	498.805
Z	61237.480	-8.833	498.686	498.705
CLBGP4	61245.480	-8.833	498.630	498.630

SOUTH LANE LINE

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	60957.477	-12.000	504.240	504.240
CLWABT	60959.227	-12.000	504.195	504.195
A	60969.228	-12.000	503.941	503.963
B	60979.228	-12.000	503.687	503.721
C	60989.228	-12.000	503.433	503.466
D	60999.229	-12.000	503.179	503.198
CLBP2W	61007.646	-12.000	502.965	502.965
CLBP2E	61009.479	-12.000	502.919	502.919
E	61019.479	-12.000	502.665	502.688
F	61029.479	-12.000	502.411	502.454
G	61039.480	-12.000	502.157	502.216
H	61049.480	-12.000	501.903	501.972
I	61059.480	-12.000	501.649	501.721
J	61069.480	-12.000	501.395	501.465
K	61079.480	-12.000	501.146	501.206
L	61089.480	-12.000	500.907	500.954
M	61099.480	-12.000	500.679	500.711
N	61109.480	-12.000	500.463	500.479
O	61119.480	-12.000	500.256	500.261
CLBGP3	61127.480	-12.000	500.099	500.099
P	61137.480	-12.000	499.913	499.919
Q	61147.480	-12.000	499.737	499.755
R	61157.480	-12.000	499.571	499.606
S	61167.480	-12.000	499.417	499.467
T	61177.480	-12.000	499.273	499.336
U	61187.480	-12.000	499.140	499.211
V	61197.480	-12.000	499.018	499.091
W	61207.480	-12.000	498.907	498.974
X	61217.480	-12.000	498.806	498.862
Y	61227.480	-12.000	498.716	498.755
Z	61237.480	-12.000	498.637	498.655
CLBGP4	61245.480	-12.000	498.581	498.581

GIRDER 6

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	61009.355	-17.228	502.813	502.813
E	61019.365	-17.295	502.557	502.580
F	61029.374	-17.357	502.302	502.345
G	61039.384	-17.413	502.046	502.105
H	61049.393	-17.463	501.791	501.860
I	61059.403	-17.508	501.536	501.608
J	61069.413	-17.548	501.281	501.350
K	61079.423	-17.581	501.030	501.091
L	61089.432	-17.609	500.791	500.838
M	61099.442	-17.632	500.563	500.594
N	61109.452	-17.649	500.345	500.361
O	61119.462	-17.660	500.139	500.144
CLBGP3	61127.470	-17.665	499.981	499.981
P	61137.480	-17.667	499.794	499.801
Q	61147.480	-17.667	499.618	499.637
R	61157.480	-17.667	499.453	499.488
S	61167.480	-17.667	499.299	499.348
T	61177.480	-17.667	499.155	499.217
U	61187.480	-17.667	499.022	499.093
V	61197.480	-17.667	498.900	498.973
W	61207.480	-17.667	498.788	498.856
X	61217.480	-17.667	498.688	498.744
Y	61227.480	-17.667	498.598	498.637
Z	61237.480	-17.667	498.519	498.537
CLBGP4	61245.480	-17.667	498.463	498.463

BEAM 2

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	60957.651	17.877	504.112	504.112
CBWABT	60959.399	17.860	504.068	504.068
A	60969.389	17.765	503.817	503.838
B	60979.379	17.675	503.565	503.599
C	60989.368	17.591	503.313	503.346
D	60999.358	17.513	503.061	503.079
CBRP2W	61007.767	17.451	502.848	502.848

BEAM 3

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	60957.557	8.378	504.294	504.294
CBWABT	60959.306	8.361	504.249	504.249
A	60969.301	8.265	503.997	504.019
B	60979.296	8.176	503.745	503.779
C	60989.291	8.091	503.492	503.525
D	60999.286	8.013	503.239	503.258
CBRP2W	61007.699	7.951	503.027	503.027

BEAM 4

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	60957.463	-1.122	504.409	504.409
CBWABT	60959.213	-1.139	504.364	504.364
A	60969.213	-1.234	504.109	504.131
B	60979.214	-1.324	503.853	503.888
C	60989.214	-1.408	503.598	503.631
D	60999.214	-1.487	503.343	503.362
CBRP2W	61007.632	-1.549	503.128	503.128

BEAM 5

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	60957.369	-10.621	504.263	504.263
CBWABT	60959.120	-10.638	504.219	504.219
A	60969.125	-10.734	503.963	503.985
B	60979.131	-10.824	503.707	503.742
C	60989.137	-10.908	503.452	503.485
D	60999.142	-10.986	503.197	503.215
CBRP2W	61007.564	-11.048	502.982	502.982

BEAM 6

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	60957.308	-16.788	504.144	504.144
CBWABT	60959.059	-16.805	504.099	504.099
A	60969.068	-16.900	503.843	503.865
B	60979.077	-16.990	503.587	503.621
C	60989.086	-17.074	503.331	503.364
D	60999.096	-17.153	503.075	503.094
CBRP2W	61007.520	-17.215	502.860	502.860

NOTE: OFFSETS ARE POSITIVE TO THE LEFT AND NEGATIVE TO THE RIGHT FROM THE REFERENCED PROFILE GRADE LINE WHEN VIEWED LOOKING UPSTATION.

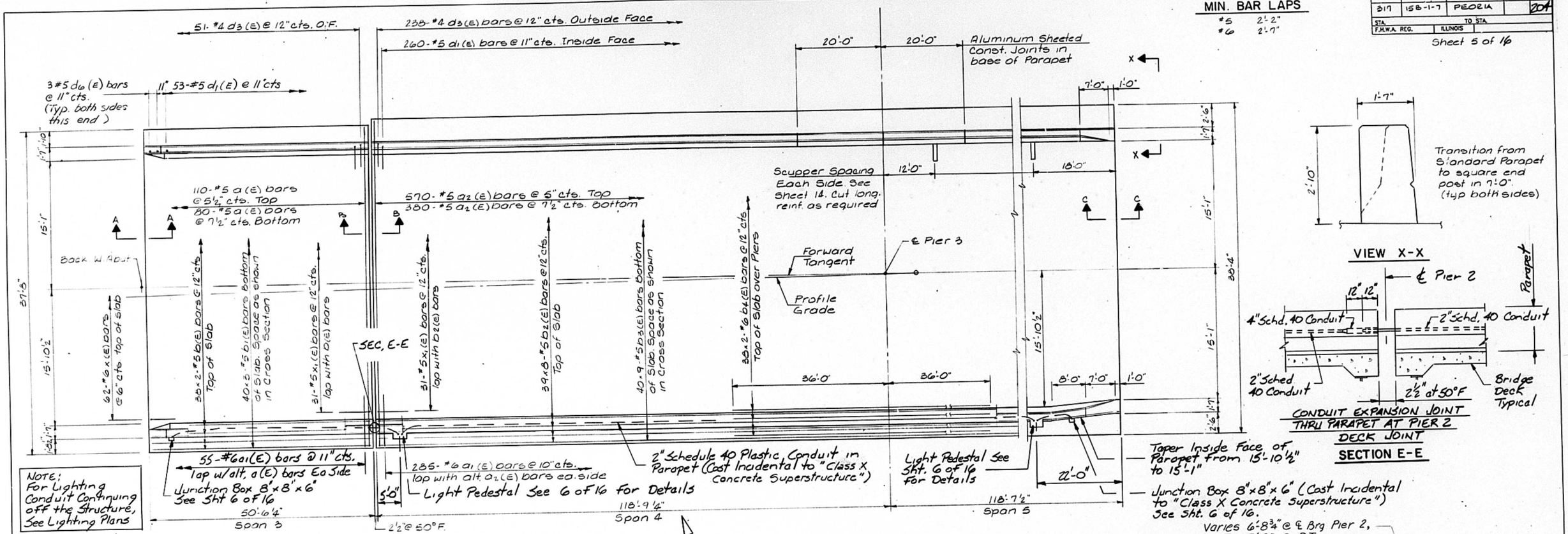
TOP OF SLAB ELEVATIONS
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611+27.48
STRUCTURE NO. 090-0070

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		204
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

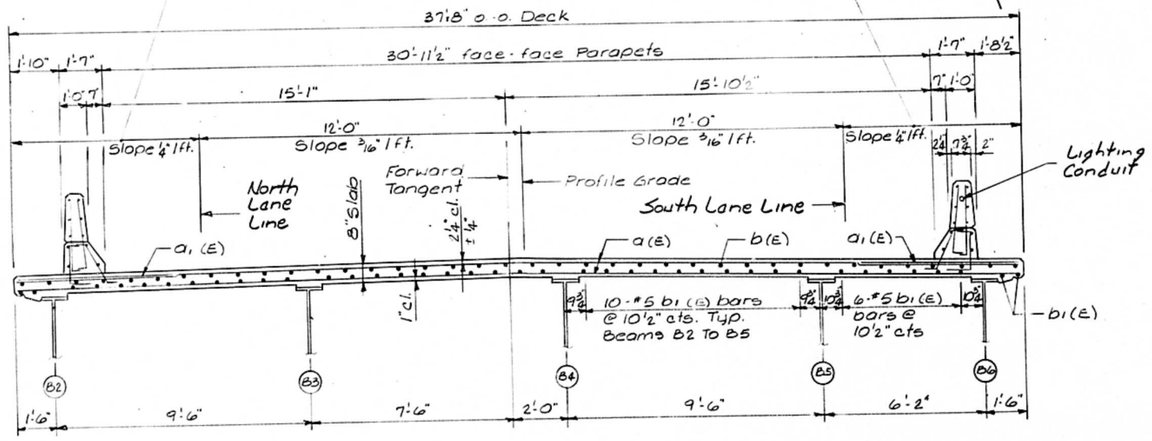
Sheet 5 of 16

MIN. BAR LAPS

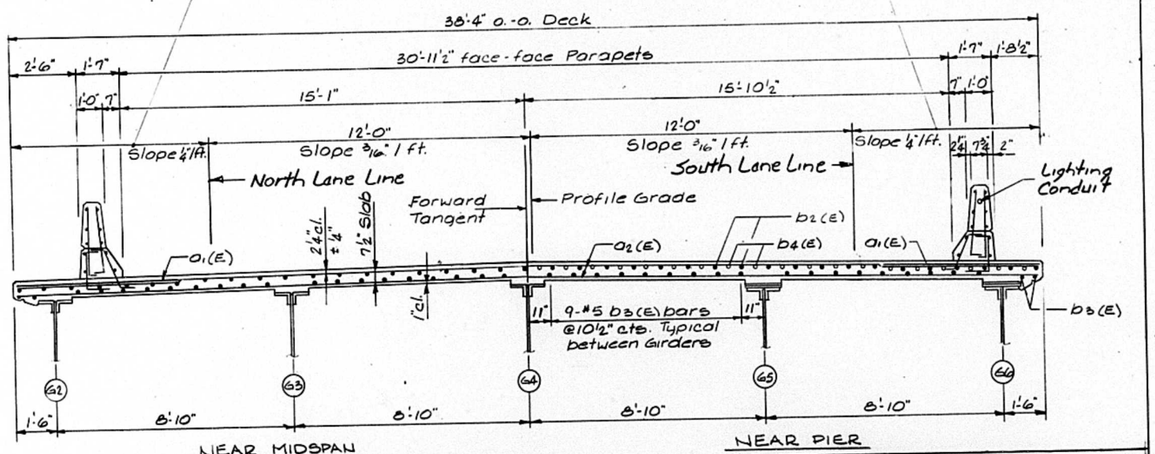
#5	2'-2"
#6	2'-7"



NOTE: For Lighting Conduit Continuing off the Structure, See Lighting Plans



CROSS SECTION - SPAN 3
(Looking East)



NEAR MIDSPAN

NEAR PIER

CROSS SECTION - SPANS 4 & 5
(Looking East)

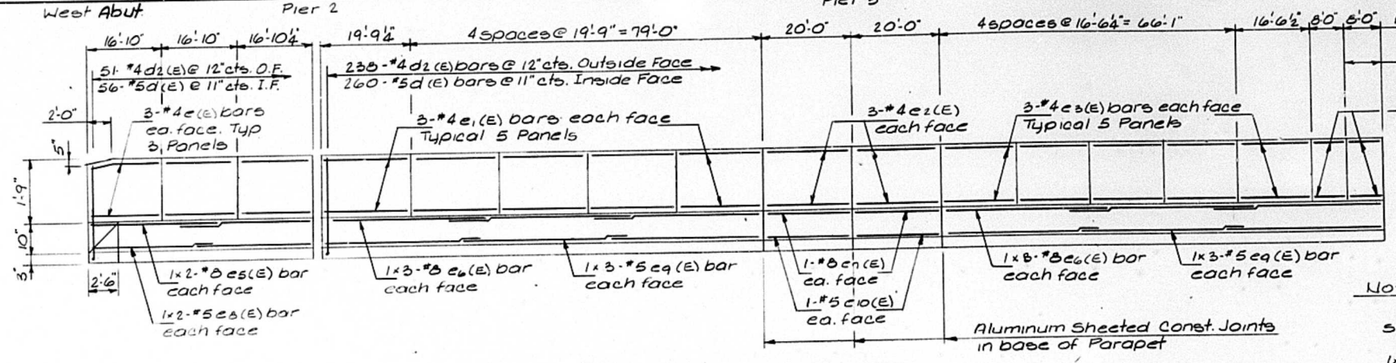
Notes:
- See Sheet 6 of 16 for Superstructure Details.
- Bars designated (E) shall be epoxy coated.
- Bars indicated thus 39x8-#5 etc. indicates 39 lines of bars with 8 lengths per line.

See Sheet 8 of 16 for added Fillet Reinforcement Tables and Quantities in Deck.

SUPERSTRUCTURE
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611+27.48
STRUCTURE NO. 090-0070

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		205
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

Sheet 6 of 16



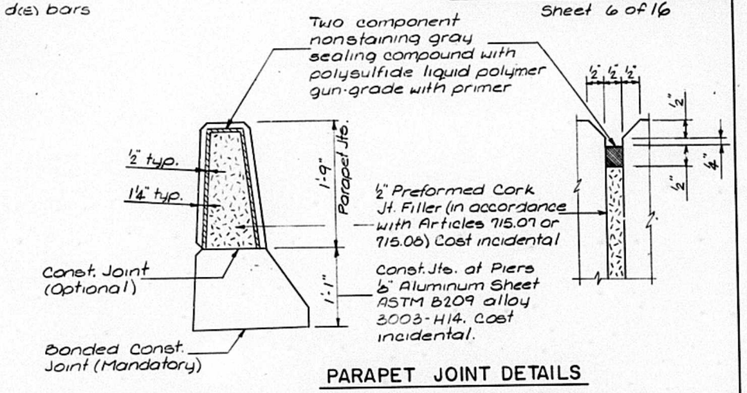
INSIDE ELEVATION OF PARAPET

MIN. BAR LAPS

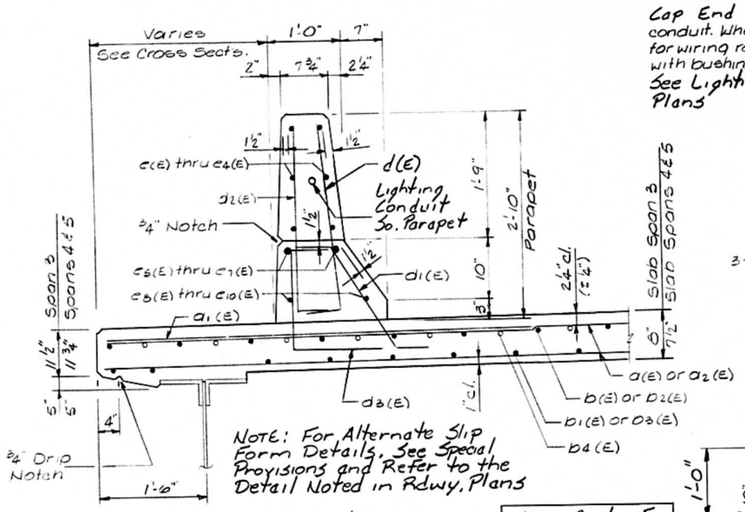
#5	2'-2"
#8	4'-6"

Notes:

Bars designated (E) shall be epoxy coated. Bars indicated thus 1x3-#8 etc. indicates one line of bars with 3 lengths per line.

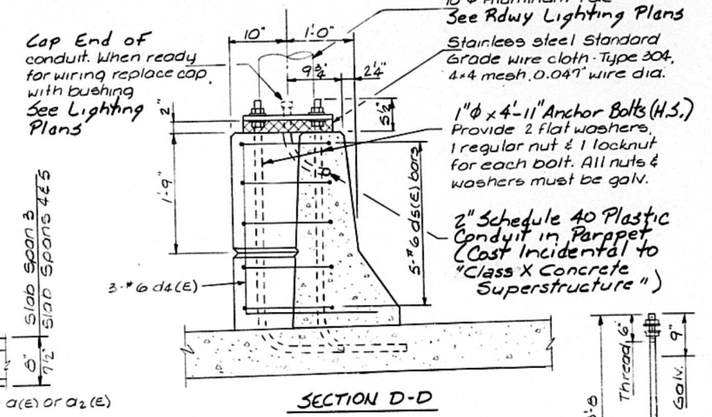


PARAPET JOINT DETAILS

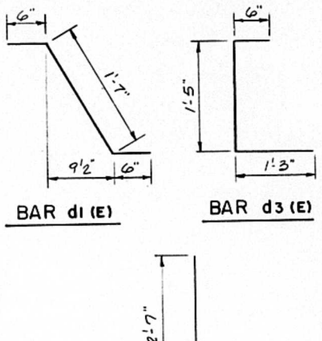


NOTE: For Alternate Slip Form Details, See Special Provisions and Refer to the Detail Noted in Rdwy. Plans

SECTION THRU PARAPET



SECTION D-D



BAR d1(E)

BAR d3(E)

1" ø HIGH STRENGTH ANCHOR BOLT (ASTM A687)

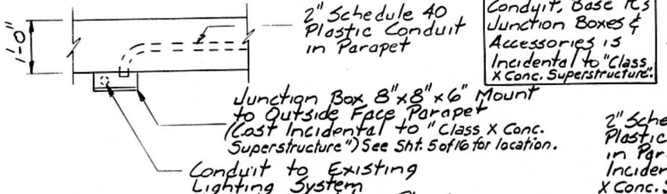
BARS d(E) & d2(E)

SUPERSTRUCTURE BILL OF MATERIAL TABLE 1

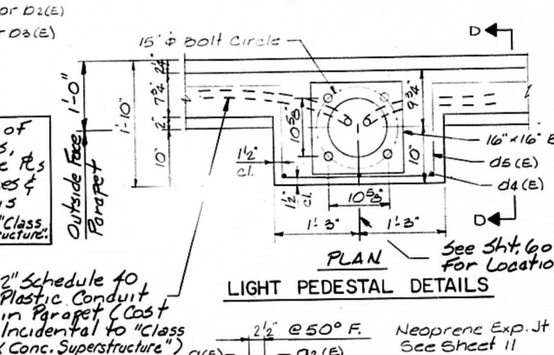
SEE SHT 8 OF 16 FOR TABLE 2 (FILLET REINFORCEMENT)

BAR	NO.	SIZE	LENGTH	SHAPE	BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	190	#5	37'-5"		c(E)	36	#4	16'-7"	
a1(E)	680	#6	6'-0"		c1(E)	60	#4	19'-6"	
a2(E)	950	#5	38'-1"		c2(E)	24	#4	19'-9"	
a3(E)	2	#5	29'-10"		c3(E)	60	#4	16'-3"	
a4(E)	32	#5	2'-0"		c4(E)	24	#4	7'-9"	
					c5(E)	8	#8	27'-4"	
b(E)	76	#5	26'-3"		c6(E)	24	#8	35'-10"	
b1(E)	120	#5	18'-3"		c7(E)	8	#8	19'-9"	
b2(E)	312	#5	31'-7"		c8(E)	8	#5	26'-3"	
b3(E)	360	#5	28'-4"		c9(E)	24	#5	34'-4"	
b4(E)	76	#6	37'-4"		c10(E)	8	#5	19'-9"	
d(E)	632	#5	3'-1"	L	x(E)	62	#6	4'-11"	
d1(E)	626	#5	2'-7"		x1(E)	62	#5	4'-1"	
d2(E)	578	#4	3'-1"						
d3(E)	578	#4	3'-2"		Class X Concrete Superstructure		CU. YDS.	363.0	
d4(E)	6	#6	4'-5"	L					
d5(E)	10	#6	8'-11"		Reinforcement Bars Epoxy Coated		LBS.	94,810	
d6(E)	6	#5	2'-10"						

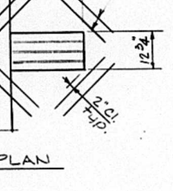
NOTE: Cost of Anchor Bolts, Conduit, Base Pls, Junction Boxes & Accessories is Incidental to "Class X Conc. Superstructure".



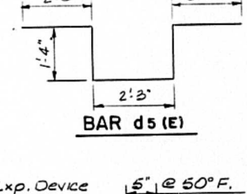
JUNCTION BOX - PLAN



LIGHT PEDESTAL DETAILS

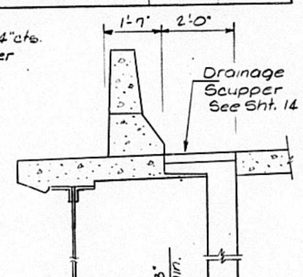


BAR d4(E)



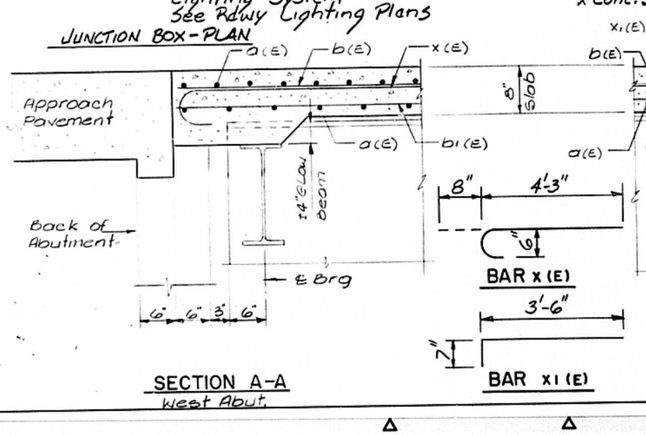
BAR d5(E)

PLAN



SECTION

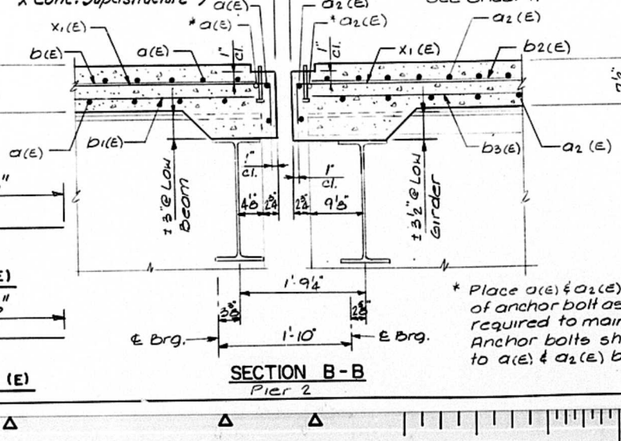
SCUPPER DETAIL



SECTION A-A
West Abut.

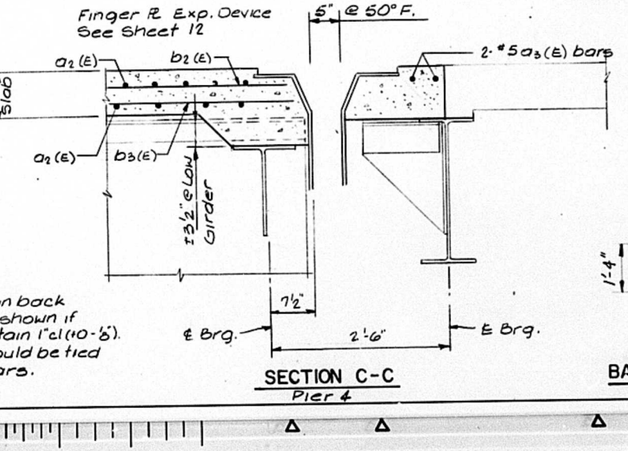
BAR x(E)

BAR x1(E)

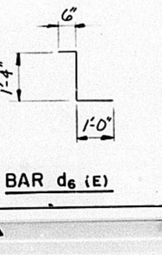


SECTION B-B
Pier 2

* Place a(E) & a2(E) in back of anchor bolt as shown if required to maintain 1" cl (10-5). Anchor bolts should be tied to a(E) & a2(E) bars.



SECTION C-C
Pier 4

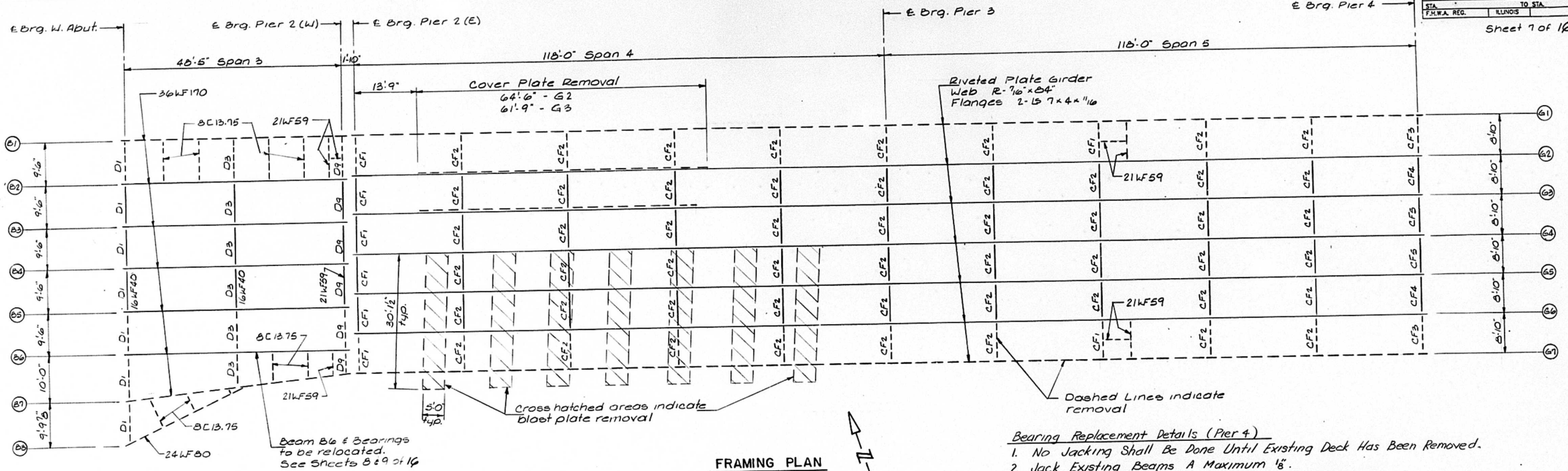


BAR d6(E)

SUPERSTRUCTURE DETAILS
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611 + 27.48
STRUCTURE NO. 090-0070

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		206
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

Sheet 7 of 16



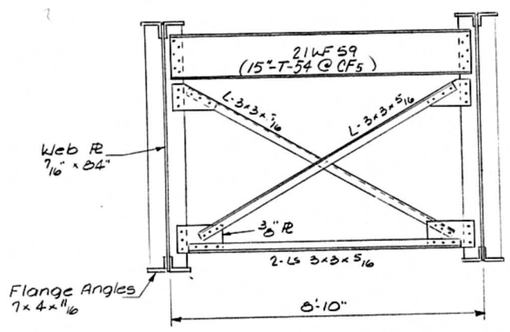
FRAMING PLAN

Bearing Replacement Details (Pier 4)

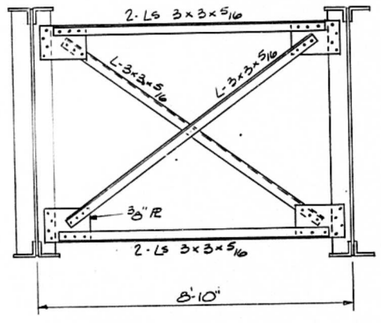
1. No Jacking Shall Be Done Until Existing Deck Has Been Removed.
2. Jack Existing Beams A Maximum 1/8".
3. Minimum Jack Capacity Shall Be 6 Tons Per Beam.
4. Dead Load Reaction (For Jack Load Estimate) = 11.0 Kips Per Beam.

NOTES

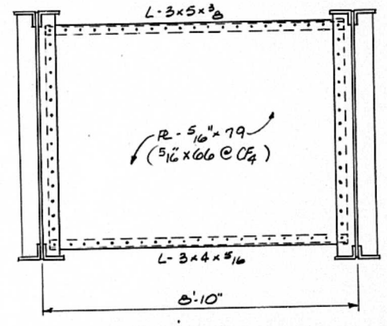
1. Temporary shoring required to remove & replace bearings at Pier 4. Jack 1/8". See Special Provisions.
2. All open holes remaining after removals shall be filled with 3/4"ϕ AASHTO M164 High Strength Bolts. Weight included with Structural Steel.



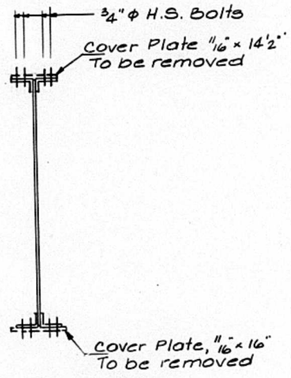
CROSS FRAME CF 1 (CF3 Similar)



CROSS FRAME CF 2

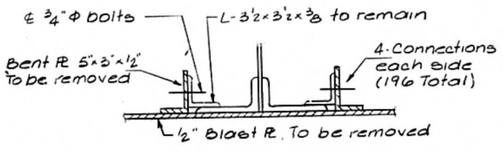


CROSS FRAME CF 3 (CF4 Similiar)

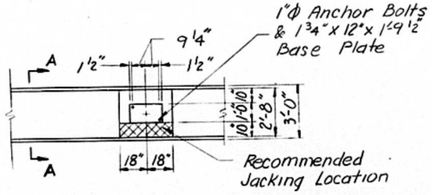


COVER PLATE REMOVAL

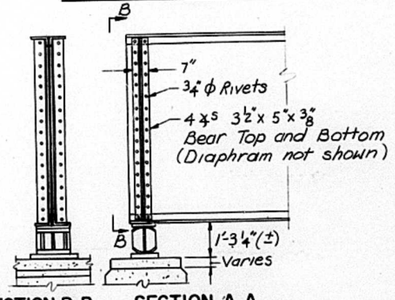
Girders G2 & G3 only



BLAST PLATE REMOVAL



PARTIAL PLAN - PIER CAP



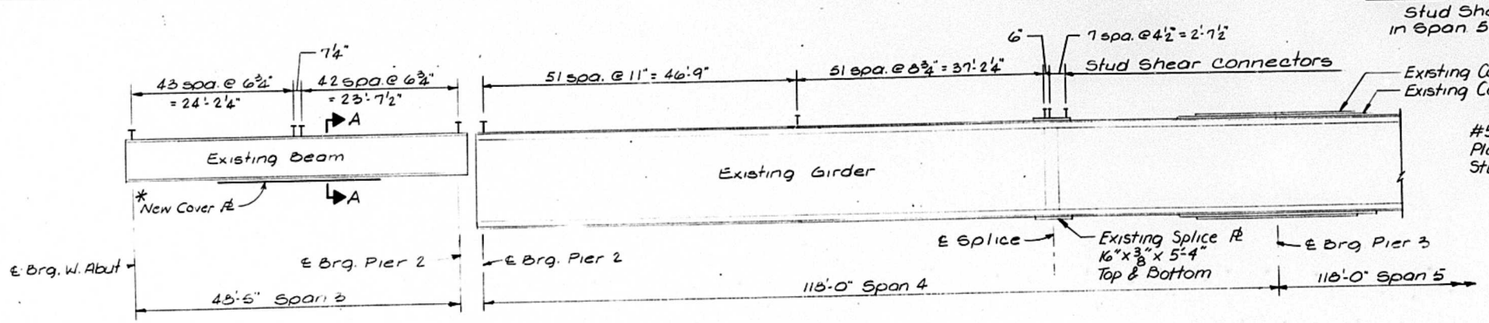
SECTION B-B SECTION A-A

STRUCTURAL STEEL REMOVALS
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611 + 27.48
STRUCTURE NO. 090-0070

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		207
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 8 of 16

Note:
Stud Shear connector Spacing in Span 5 is same as Span 4

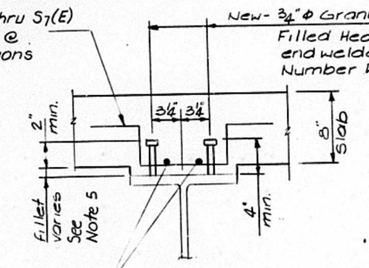


Existing Cover Pl 16"x½"x 23'-6" Top & Bottom
Existing Cover Pl 16"x½"x 29'-0" Top & Bottom

GIRDER ELEVATION

#5 $S_5(E)$ Thru $S_7(E)$ Place bars @ Stud Locations

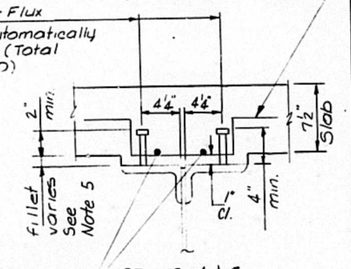
New - ¾" ϕ Granular or Solid - Flux Filled Headed Studs automatically end welded to flange. (Total Number Req'd. = 3090)



2x3 - #5 $b_1(E)$

SPAN 3

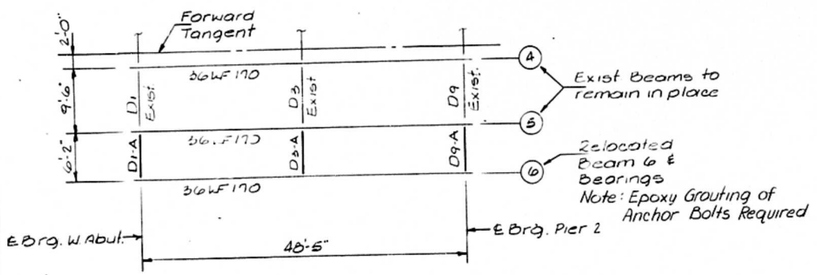
#5 S(E) thru $S_4(E)$. Place bars @ stud locations or @ 12" cts in areas of no studs



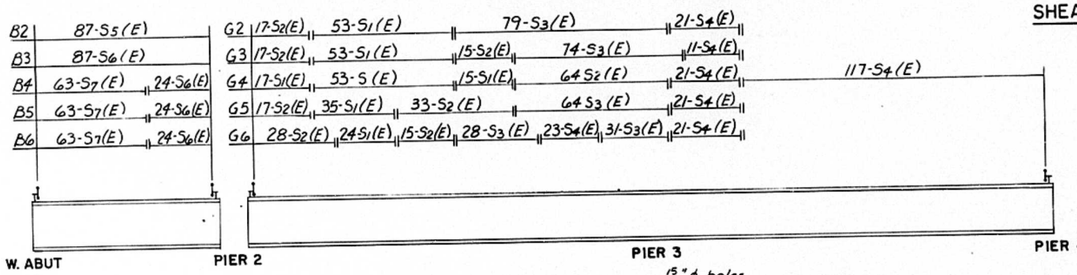
2x6 - #5 $b_5(E)$ Girders 2, 3, 5 & 6
2x9 - #5 $b_3(E)$ Girder 4

SPANS 4 & 5

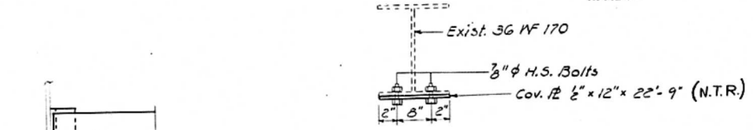
SHEAR CONNECTOR DETAILS



PARTIAL FRAMING PLAN - SPAN 3

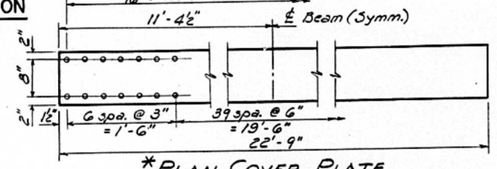


*1) Cost of field drilling holes to install cover plates is incidental to "F. & E. Structural Steel."
2) Cover plates shall be placed before deck is poured.
3) Contact surfaces for new cover plates shall be cleaned in accordance with SSPC-SP6 commercial blast cleaning.

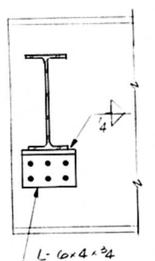


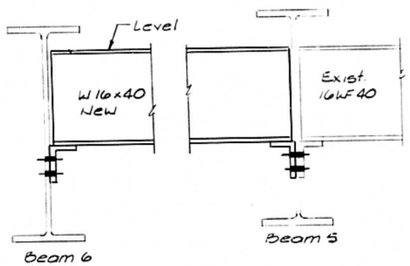
SECTION A-A

GIRDER ELEVATION



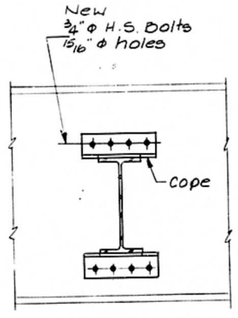
*PLAN COVER PLATE
(No. Req'd. 5)

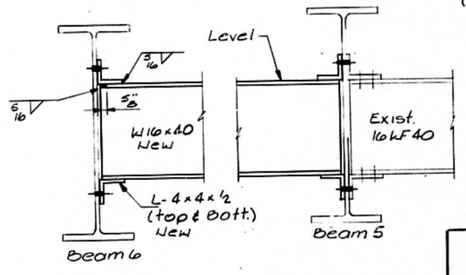




DIAPHRAGM D1-A
1- Required

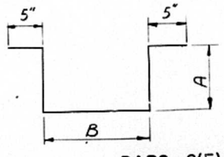
Note: 2 hardened washers shall be required for all bolts for diaphragms (1 each side)



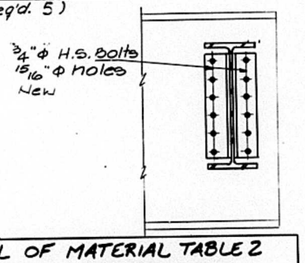


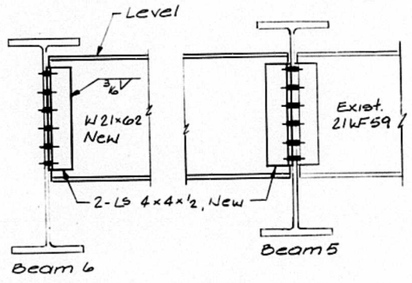
DIAPHRAGM D3-A
1- Required

Bar	"A" Approximate	"B"
S(E)	10"	11½"
$S_1(E)$	9"	11½"
$S_2(E)$	8"	11½"
$S_3(E)$	7"	11½"
$S_4(E)$	6"	11½"
$S_5(E)$	8"	9"
$S_6(E)$	8½"	9"
$S_7(E)$	9½"	9"



BARS S(E) THRU S7 (E)
("A" Dimension — See Note 7)





DIAPHRAGM D9-A
1- Required

BILL OF MATERIAL TABLE 2
(FILLET REFORCEMENT FOR FILLET HEIGHT GREATER THAN 2")

Bar	NO.	Size	Length	Shape
$b_1(E)$	30	#5	18'-3"	—
$b_3(E)$	18	#5	28'-4"	—
$b_5(E)$	48	#5	26'-0"	—
S(E)	53	#5	3'-6"	⌐¬
$S_1(E)$	197	#5	3'-4"	⌐¬
$S_2(E)$	206	#5	3'-2"	⌐¬
$S_3(E)$	297	#5	3'-0"	⌐¬
$S_4(E)$	214	#5	2'-10"	⌐¬
$S_5(E)$	87	#5	2'-11"	⌐¬
$S_6(E)$	159	#5	3'-0"	⌐¬
$S_7(E)$	189	#5	3'-2"	⌐¬
Reinforcement Bars Epoxy Coated			Lbs.	6910

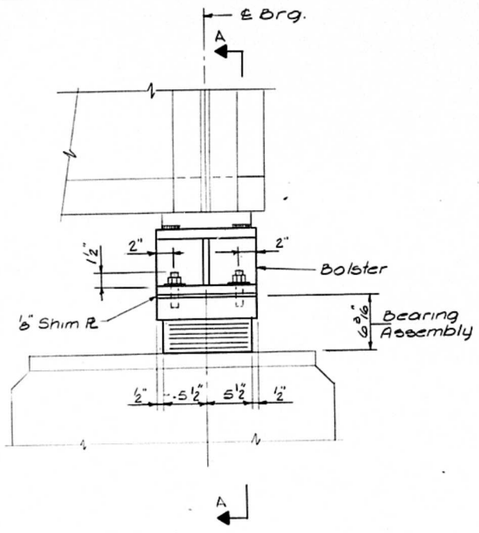
NOTES

1. All steel sections shown this sheet are existing unless otherwise noted.
2. All new steel M270 Grade 36.
3. All new bolts are ¾ ϕ M164 (ASTM 325) except as noted.
4. Provide temporary support for existing diaphrams at Beam 5. See Special Provisions.
5. If the fillet is greater than 2" reinforcement shall be provided in fillet as shown
6. The Contractor shall verify fillet heights at intervals shown in the top of steel Elevations Tables shown on sheet 3 of 14 before ordering the reinforcement bars.
7. Approximate dimension. The actual dimension shall be fillet height +3½" in Span 3 & fillet height +3" in Spans 4 & 5.

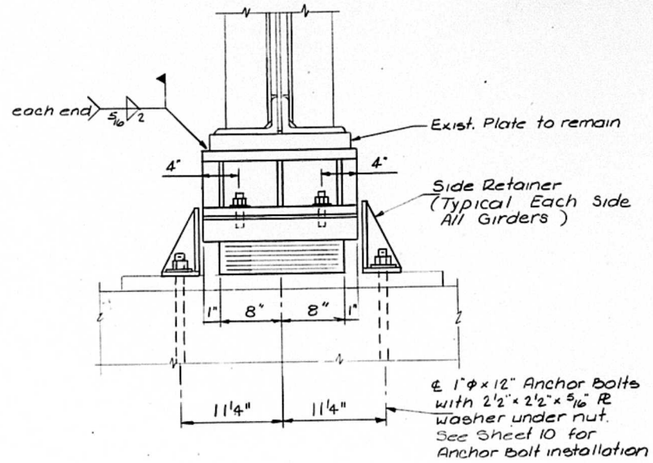
STEEL DETAILS
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611+27.48
STRUCTURE NO. 090-0070

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		228
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS			

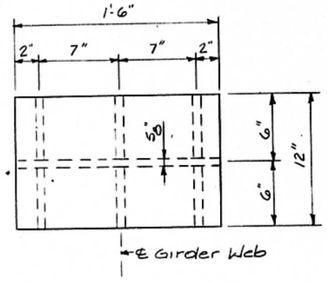
Sheet 9 of 16

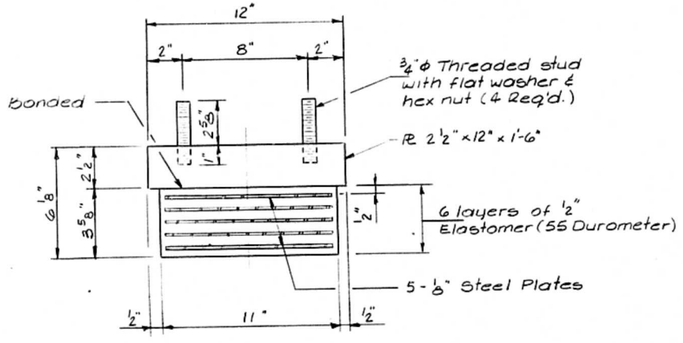


ELEVATION AT PIER 4
Looking North



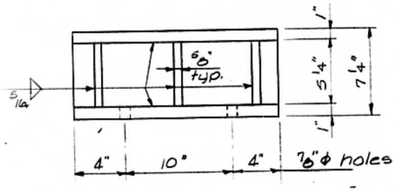
SECTION A-A





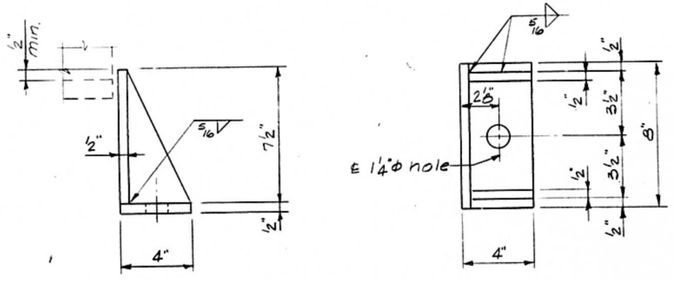
BOTTOM BEARING ASSEMBLY

Note: Shim plates shall not be placed under Bearing Assembly.



BOLSTER DETAILS

Note: Weight of bolsters included with structural steel



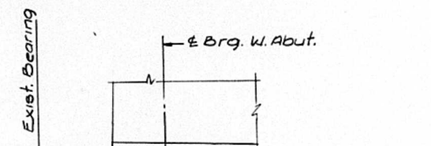
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

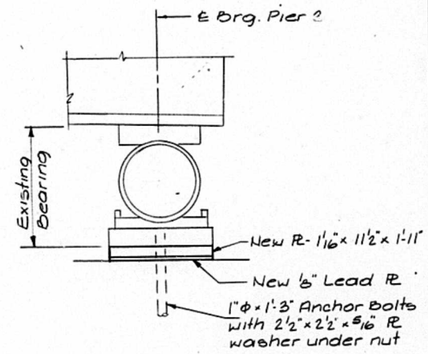
PIER 4

BILL OF MATERIAL

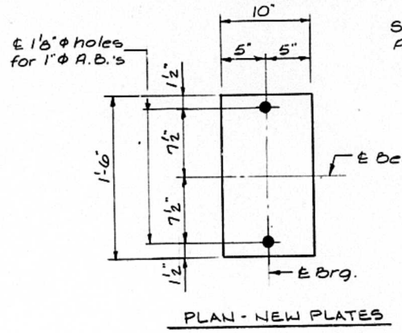
ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly, Type I	Each	5



ELEVATION AT WEST ABUT.

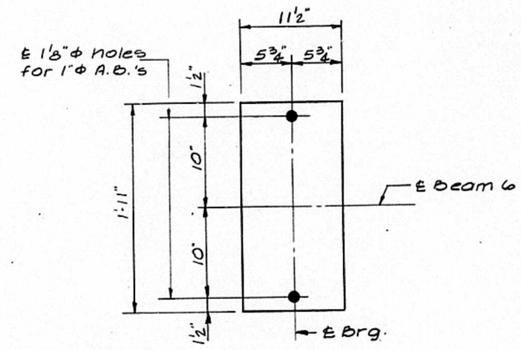


ELEVATION AT PIER 2



PLAN - NEW PLATES

See Sheet 10 for Anchor Bolt installation



PLAN - NEW PLATES

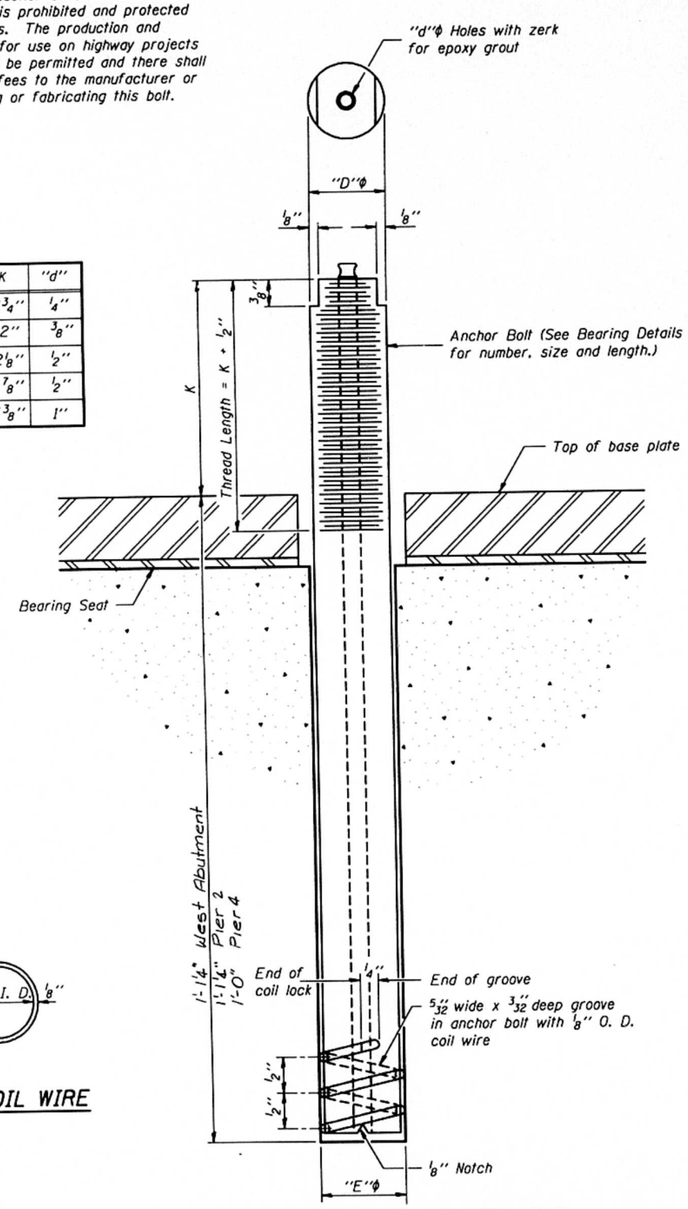
BEARING MODIFICATIONS - SPAN 3 - BEAM 6

All steel for bearings shall be M270 Grade 36

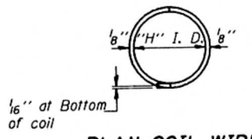
BEARINGS
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611 + 27.48
STRUCTURE NO. 090-0070

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		209
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

D	E	H	K	"d"
1"	1 1/8"	13/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT



PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system comforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place,the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

ANCHOR BOLTS FOR BEARINGS
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611 + 27.48
STRUCTURE NO. 090-0070

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		210
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

Sheet 11 of 16

Joint Size	"C" at 50°F	"D" at 50°F
~~2"~~	~~2"~~	~~1½" Min.~~
2½"	2½"	1¾" Min.
~~3"~~	~~3"~~	~~2½" Min.~~

INSTALLATION NOTES

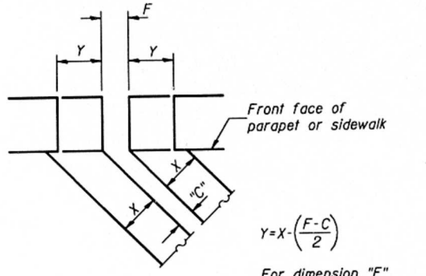
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

SKEW LIMITATIONS

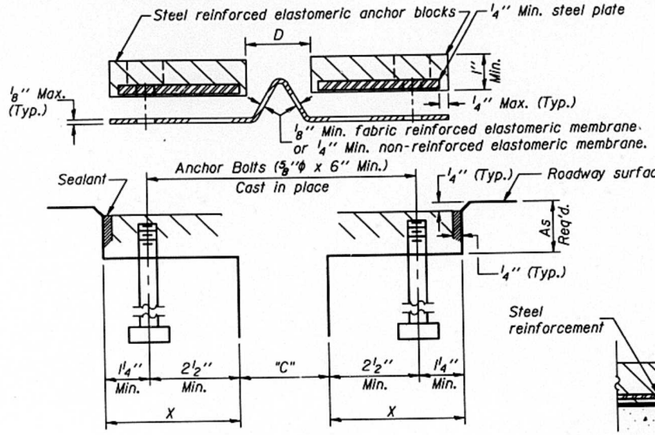
The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.

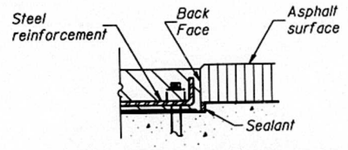


For dimension "F" see sheet #6 of 16

FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions.

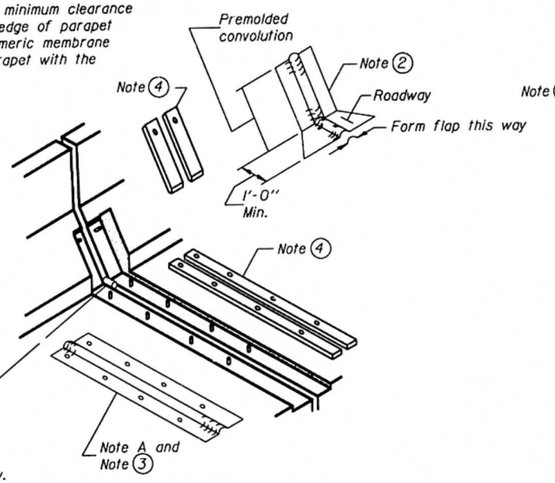
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

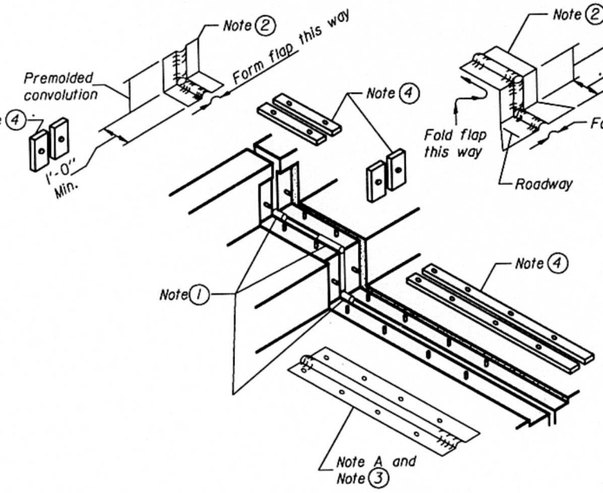
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

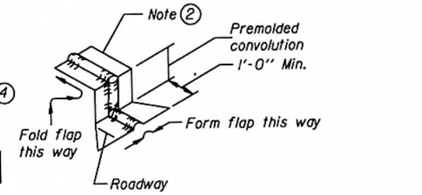
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.

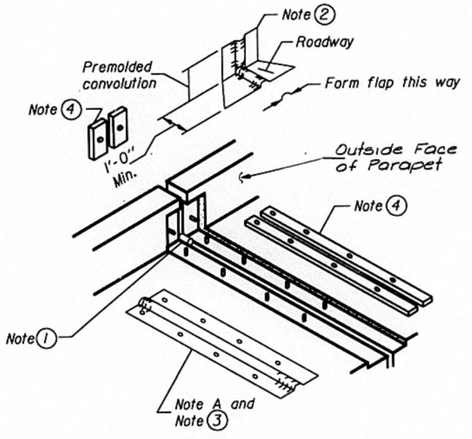


AT PARAPET

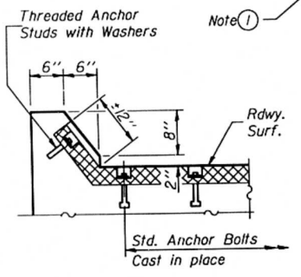


AT SIDEWALK OR MEDIAN

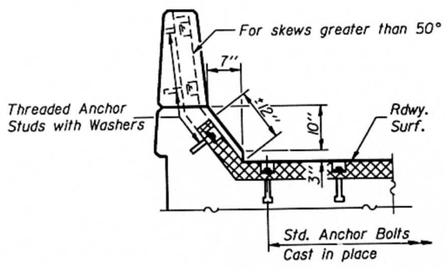




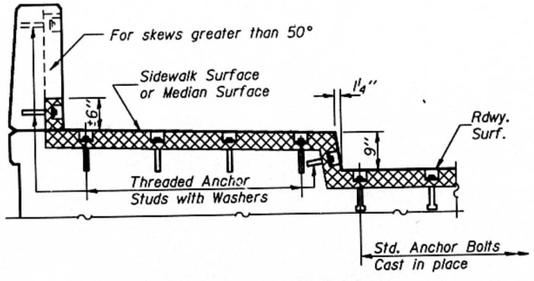
OUTSIDE OF PARAPET



AT CURB

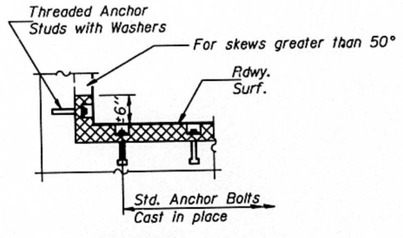


AT PARAPET



AT SIDEWALK OR MEDIAN

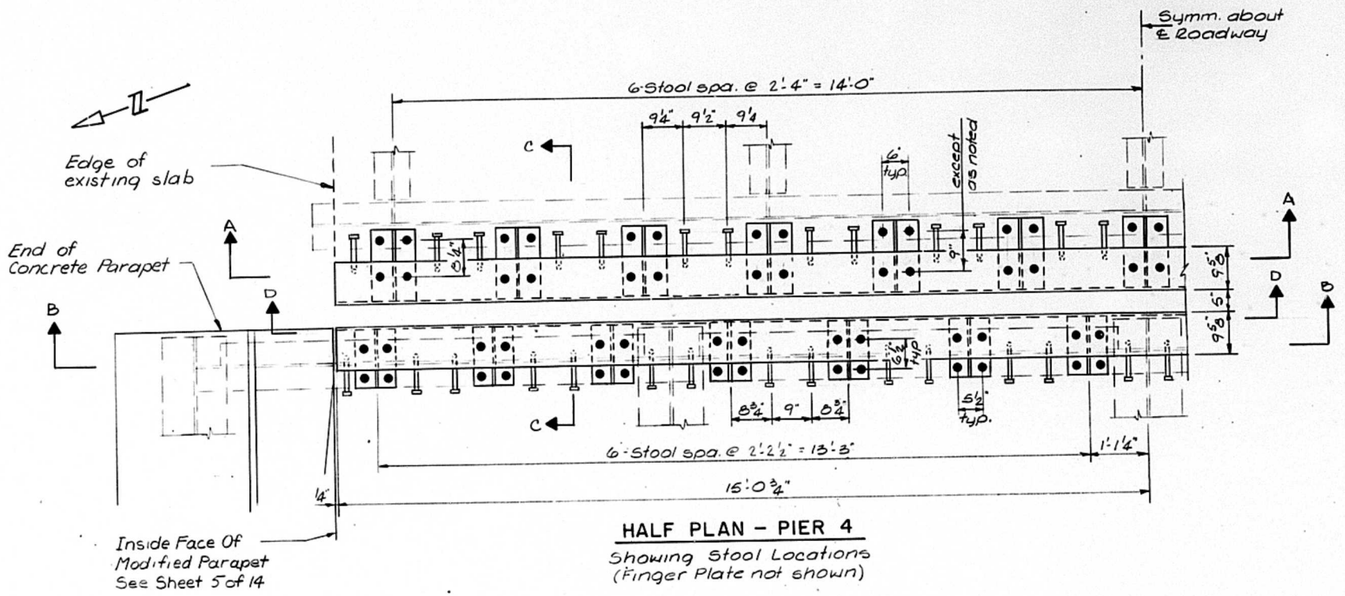
TYPICAL END TREATMENTS



AT WALL

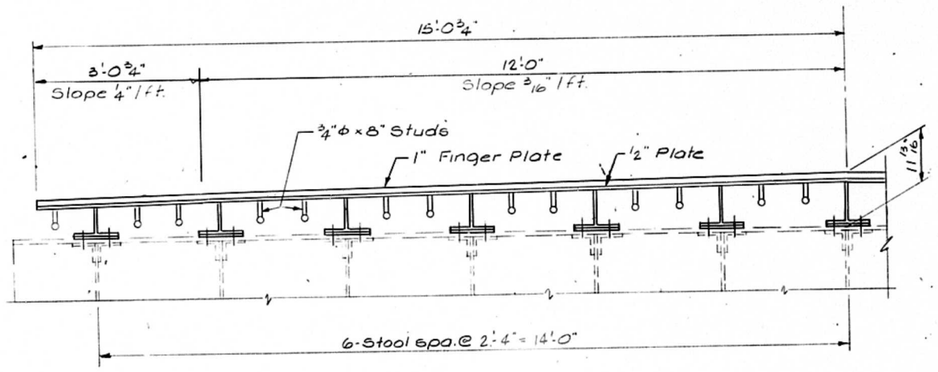
NEOPRENE EXPANSION JOINT - PIER 2
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611+27.48
STRUCTURE NO. 090-0070

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		211
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

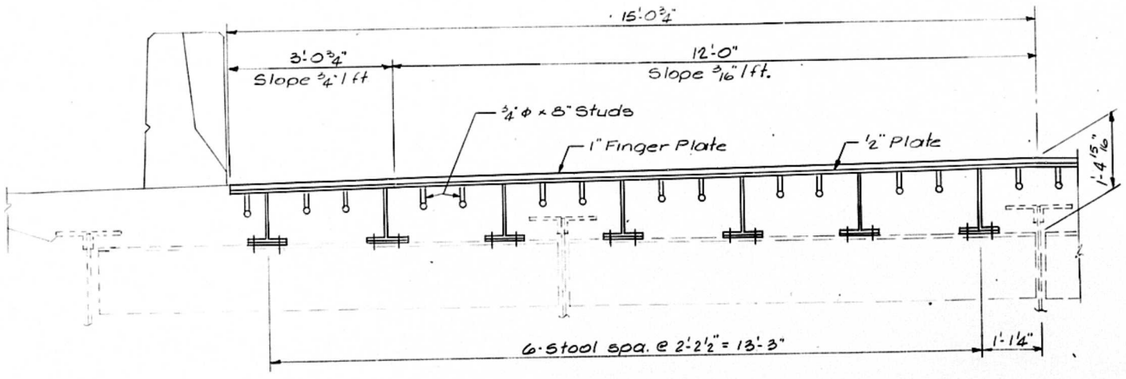


HALF PLAN – PIER 4

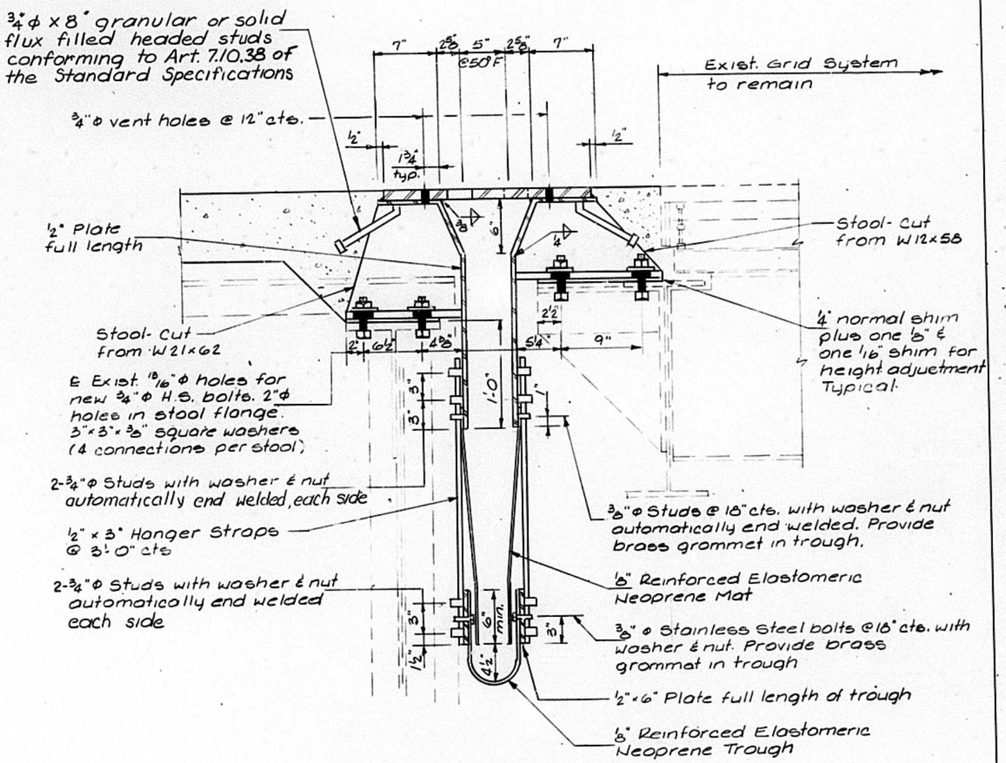
Showing Stool Locations
(Finger Plate not shown)



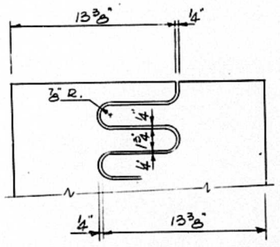
SECTION A–A



SECTION B–B



SECTION C–C



FLAME CUTTING DIAGRAM

One Required PL - 1" x 20¾" x 30'-1½"

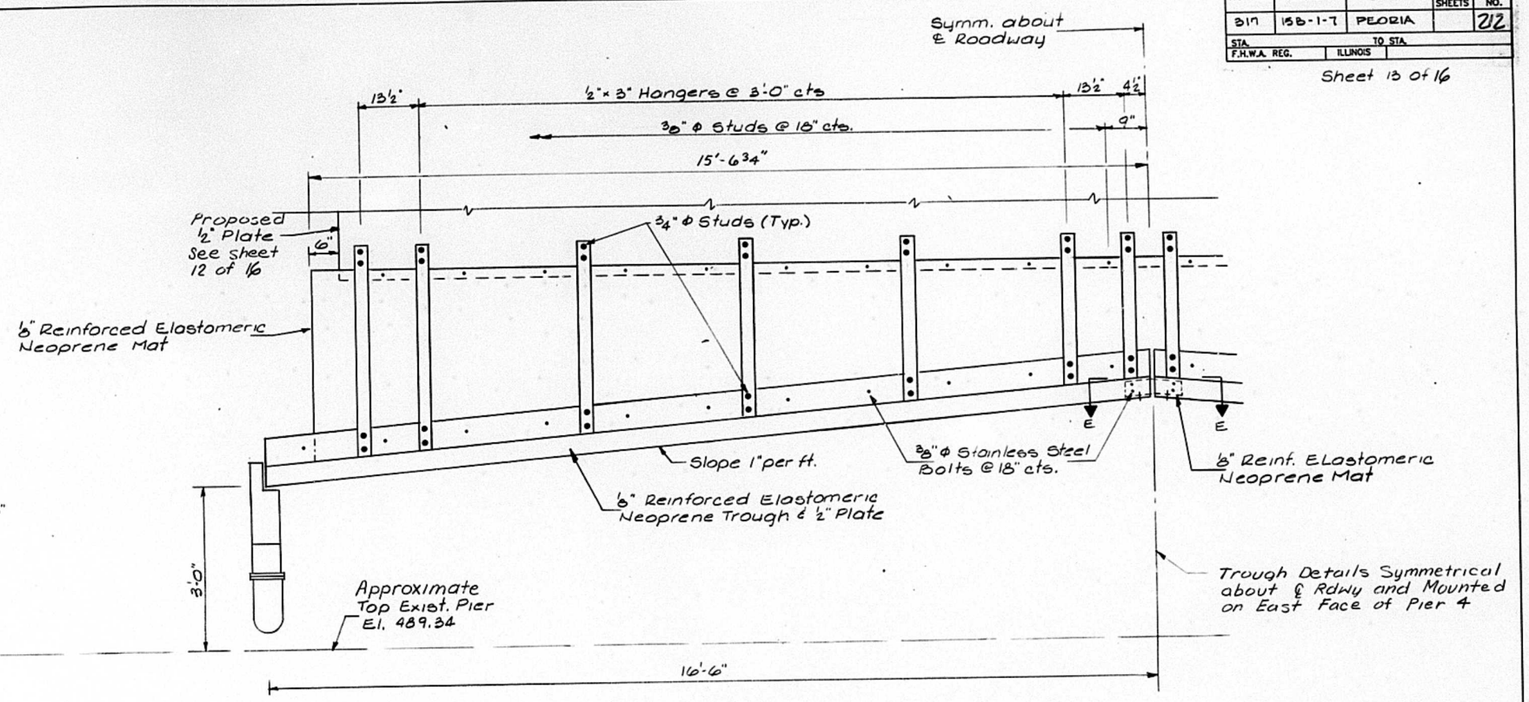
NOTES

All Steel for Expansion Device shall be M270 Grade 36.
Estimated Weight = 9660 Lbs.
See Sheet 13 of 16 for Trough Details

FINGER PLATE EXP. JOINT - PIER 4
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611 + 27.48
STRUCTURE NO. 090-0070

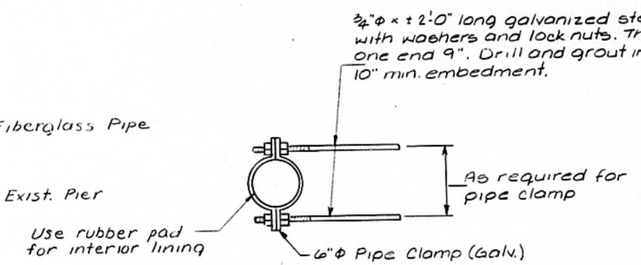
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		212
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 13 of 16

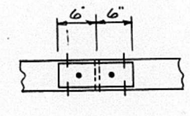


SECTION D-D

DRAIN DETAIL
(2 Required)



PIPE CLAMP



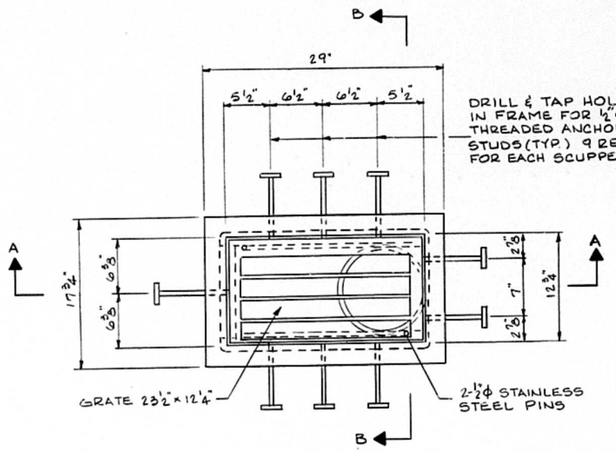
VIEW E-E

NOTES

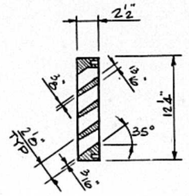
1. Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
2. Bolts, washers and nuts shall conform to the requirements of ASTM 307.
3. All bolts, washers, nuts and pipe clamps shall be galvanized in accordance with AASHTO M232.
4. Cost of the piping and all parts including installation of the system shall be paid for at the unit bid price for Drainage System.
5. Fiberglass to have prewash as per MIL-P-15328.

TROUGH DETAILS
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611+27.48.
STRUCTURE NO. 090-0070

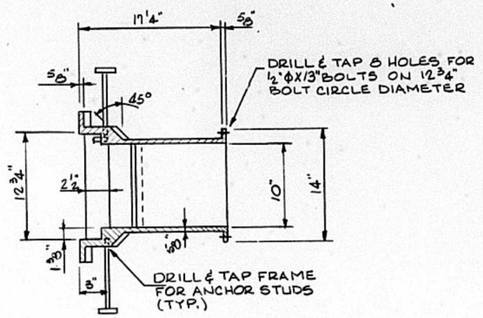
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA		213
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS			



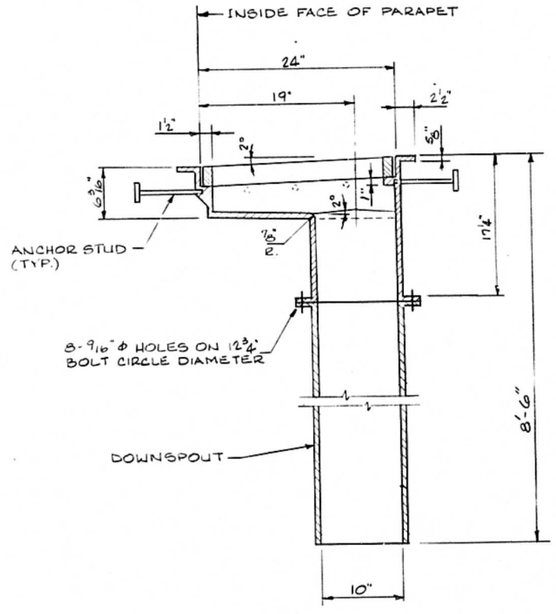
PLAN



GRATE



SECTION B-B



SECTION A-A

NOTES

1. ALL CAST IRON PARTS SHALL BE GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M105 CLASS 30.
2. BOLTS & WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307.
3. ALL BOLTS & WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M232.
4. COST OF THE FRAME, GRATE, DOWNSPOUT, BOLTS & WASHERS INCLUDING COMPLETE INSTALLATION OF SCUPPER SHALL BE PAID FOR AT THE UNIT BID PRICE FOR "DRAINAGE SCUPPERS, SPECIAL"
5. THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE VINYL ENAMEL COAT PAINTING SPECIFIED FOR STRUCTURAL STEEL.

BILL OF MATERIAL

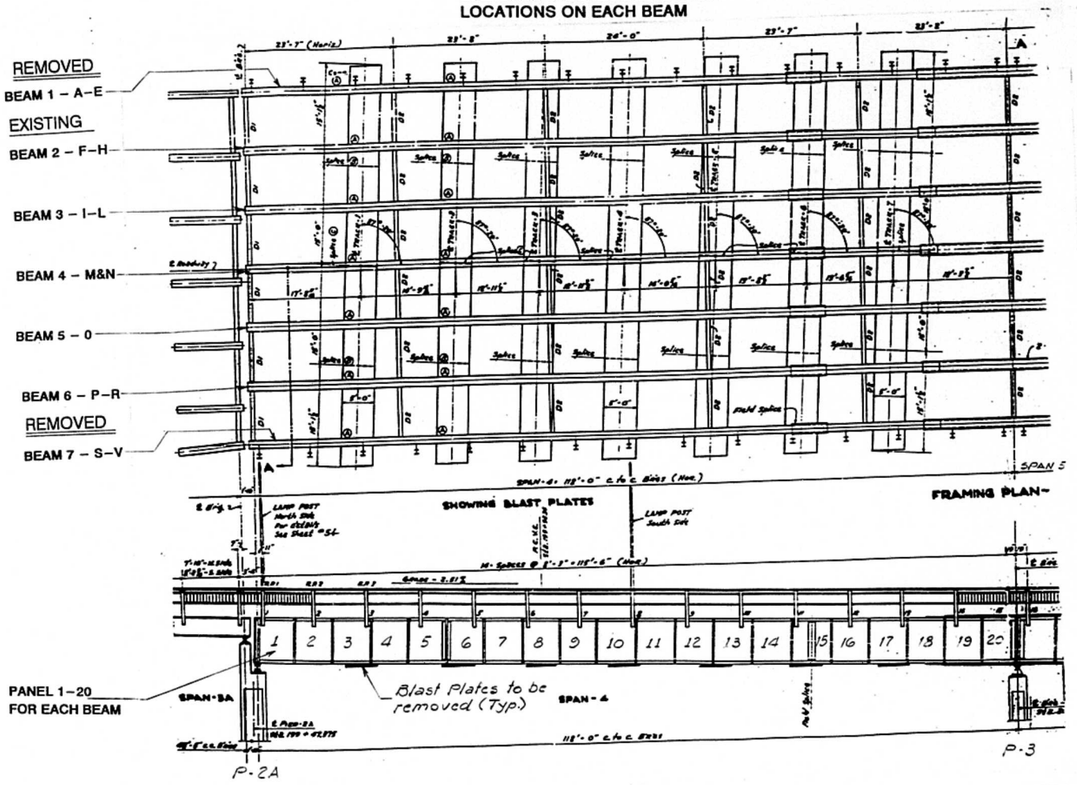
ITEM	UNIT	TOTAL
DRAINAGE SCUPPERS SPECIAL	EACH	4

DRAINAGE SCUPPER
McCLUGAGE BRIDGE APPROACHES
(EAST BOUND)
F.A. ROUTE 317 SECTION 15B-1-7
PEORIA COUNTY
STATION 611+27.48
STRUCTURE NO. 090-0070

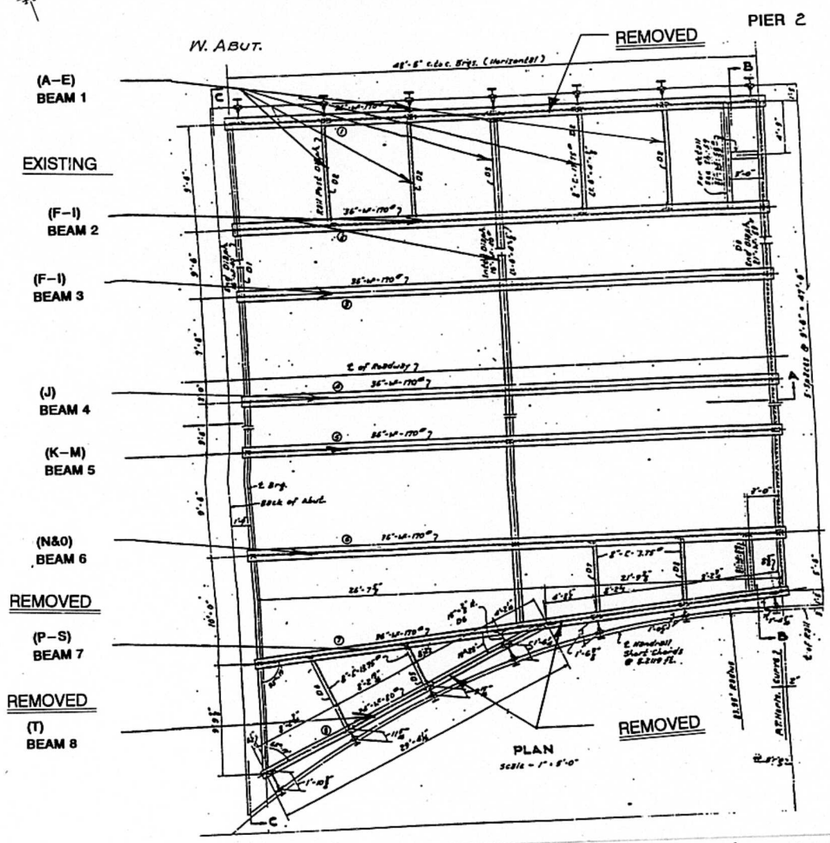
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	*	PEO/TAZ		214
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 13W & RS-2, 14W & RS(15B-1)1

SEE SPAN 4 NOTES FOR EXACT LOCATIONS ON EACH BEAM



SEE SPAN 3 NOTES FOR EXACT LOCATIONS ON EACH BEAM



Span 3

Beam 2
- F) Clean bottom flange
- G) Clean top of bottom flange N. & S. faces
- H) N. face clean 24.25′ of web from *W. Abut.*
- I) Clean diaphragm (Bay 2)

F =	1.0 x 48.42	=	48.42 S.F.
G =	.45 x 2 x 48.42	=	43.58 S.F.
H =	3.0 x 24.25	=	72.75 S.F.
I =	14.66		14.66 S.F.
			179.41 S.F.

Beam 3 Same as Beam 2 = 164.75 S.F.

Beam 4
- J) Clean entire beam N. & S. faces

J =	3.0 x 48.42 x 2	=	290.52 S.F.
J =	1.0 x 48.42	=	48.42 S.F.
J =	.42 x 4 x 48.42	=	81.35 S.F.
			420.29 S.F.

Beam 5
- K) Clean bottom flange
- L) Clean 8′ of web out from *W. Abut. N. face*
- M) Top of bottom flange and bottom of upper flange

K =	1.0 x 48.42	=	48.42 S.F.
L =	3.0 x 8	=	24.00 S.F.
M =	.42 x 4 x 48.42	=	81.35 S.F.
			153.77 S.F.

Beam 6
- N) Clean bottom flange
- O) Clean top of bottom flange and bottom of top flange N. & S. faces

N =	1 x 48.42	=	48.42 S.F.
O =	.45 x 4 x 48.42	=	87.16 S.F.
			135.58 S.F.

~~Prime Coat. All exposed and rusted steel throughout the bridge shall receive four mils DFT of the calcium sulfonate red oxide primer. It is not necessary to prime over the existing firm film primer and topcoat.~~

~~Finish Coat. All structural steel shall receive a finish coat of the calcium sulfonate high build coating at four to six mils DFT. The color of the finish coat shall be cement gray to match the existing color.~~

SPOT CLEAN AREA = 7403.00 S.F.

[redacted]

SURFACE AREA = 25427.00 S.F.

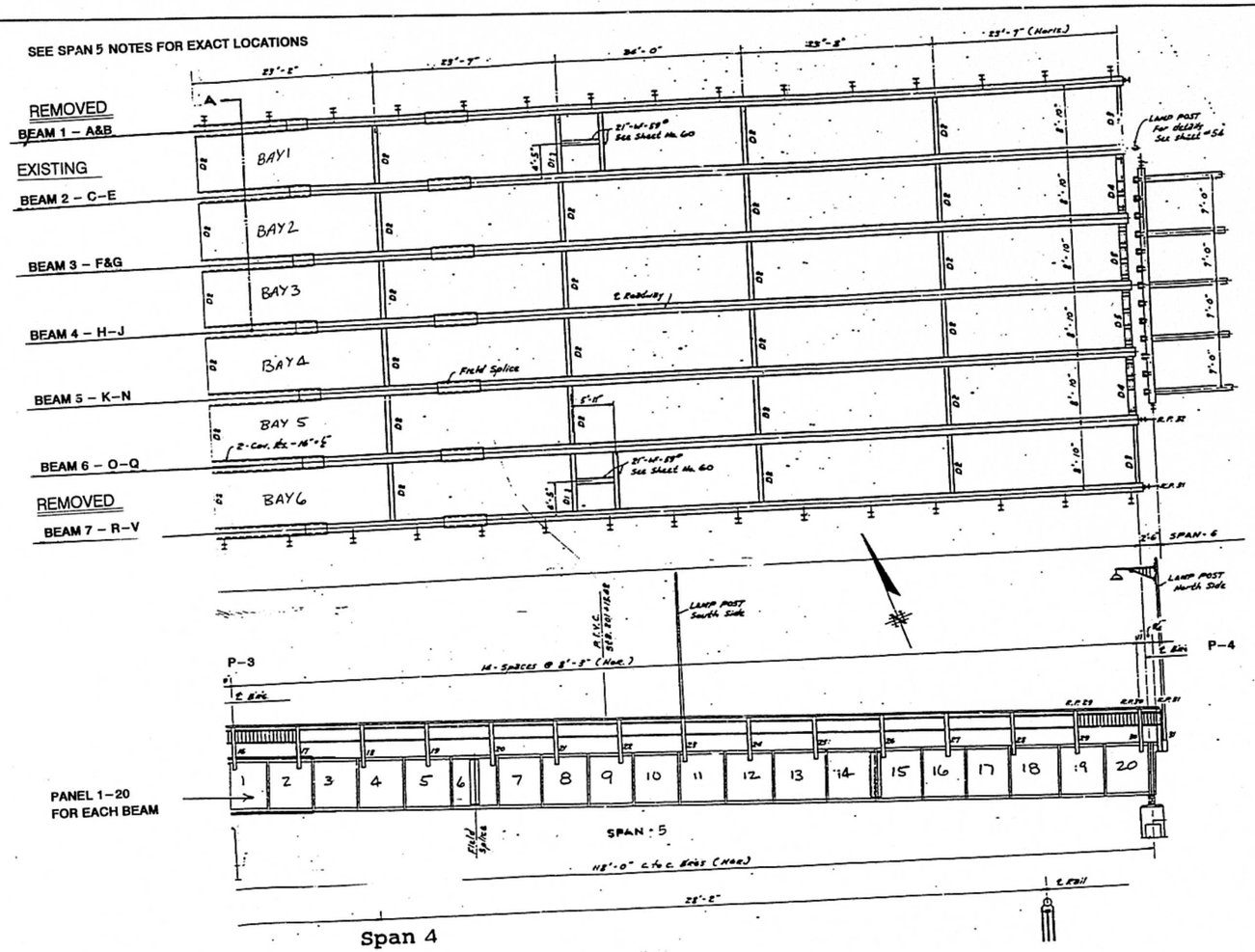
STRUCTURAL STEEL PAINTING LOCATION ON E.B. McCLUGGAGE BRIDGE

REVISE 3/12/93

ZFH94027B2F40278242AA.DGN

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
317	*	PEO/TAZ		215
STA.		TO STA.		
DIST. NO.		ILLINOIS	FED. AID PROJECT	

* 13W & RS-2, 14W & RS(15B-1)1



Span 4

Beam 2 F) Clean bottom flange
G) Clean top of bottom flange and bottom of top flange N. & S. faces
H) Clean "X" brace 4th from P-2A (Bay 2)

F = 1.35 x 118 = 159.30 S.F.
G = .60 x 4 x 118 = 283.20 S.F.
H = .25 x .25 x 9 x 2 = 3.60 S.F.
446.10 S.F.

Beam 3 I) Clean bottom flange
J) Clean top of bottom flange and bottom of top flange N. & S. faces
K) South side of web clean P-13,14,15,16,17, 18,19 & 20
L) North side of web clean P-9,10

I = 1.35 x 118 = 159.30 S.F.
J = .60 x 4 x 118 = 283.20 S.F.
K = 6 x 7 x 7 = 294.00 S.F.
L = 6 x 7 x 2 = 84.00 S.F.
820.50

Beam 4) M) Clean bottom flange
N) North side of web clean top of bottom flange and bottom of top flange

M = 1.34 x 118 = 159.30 S.F.
N = .60 x 2 x 118 = 141.60 S.F.
300.90

Beam 5 O) Clean bottom flange

O = 1.35 x 118 = 159.30 S.F.

Beam 6 P) Clean bottom flange
Q) Clean top of bottom flange and bottor of top flange N. & S. faces
U) South side of web clean P-8,9,10 & 11
R) North side of web clean P-9,10

P = 1.35 x 118 = 159.30 S.F.
Q = .60 x 4 x 118 = 283.20 S.F.
U = 6 x 7 x 4 = 168.00 S.F.
R = 6 x 7 x 2 = 84.00 S.F.
694.50 S.F.

Span 5

Beam 2 C) Clean bottom flange
D) N. side of web clean panel 5
E) S. side of web clean top of bottom flange & bottom of top flange

C = 1.35 x 118' = 159.30 S.F.
D = 6' x 7' x 1 = 42.00 S.F.
E = .60 x 2 x 118' = 141.60 S.F.
342.90 S.F. — 342.90 S.F.

Beam 3 F) Clean bottom flange
G) S. side of web clean panel 2, 3, 5, 6, and top of bottom flange

F = 1.35 x 118' = 159.30 S.F.
G = (6' x 7' x 4) + (.60 x 118') = 238.80 S.F. — 398.10 S.F.

Beam 4 H) Clean bottom flange
I) Clean top of bottom flange and bottom of top flange N. & S. face
J) S. side of web clean panel 3, 4, & 5

H = 1.35 x 118' = 159.30 S.F.
I = .60 x 4 x 118' = 283.20 S.F.
J = 6' x 7' x 3 = 126.00 S.F.
568.50 S.F. — 568.50 S.F.

Beam 5 K) Clean bottom flange
L) Clean top of bottom flange N. & S. face
M) N. side of web clean panel 2 & 3
N) S. side of web clean panel 14, 15, 16, 17, 18, & 19

K = 1.35 x 118' = 159.30 S.F.
L = .60 x 2 x 118' = 141.60 S.F.
M = 6' x 7' x 2 = 84.00 S.F.
N = 6' x 7' x 6 = 252.00 S.F.
636.90 S.F. — 636.90 S.F.

Beam 6 O) Clean bottom flange
P) Clean top of bottom flange on N. side and panel 6 N. side
Q) South side of web clean bottom of upper flange, top of bottom flange

O = 1.35 x 118' = 159.30 S.F.
P = (.60 x 118') + (6' x 7' x 1) = 112.80 S.F.
Q = (.60 x 118') + (6' x 7' x 1) = 112.80 S.F.
348.90 S.F. — 348.90 S.F.

STRUCTURAL STEEL PAINTING LOCATION ON E.B. McCLUGGAGE BRIDGE

ZF1#P4027932F4027S2AA.DGN

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317 *	PEO/TAZ	332	215A
STA.	TO STA.		

* 13W & RS-2, 14W & RS(15B-1)1

GENERAL NOTE

THE CONTRACTOR SHALL KEEP THE EXISTING BRIDGE LIGHTING ON E.B. McCLUGAGE BRIDGE IN OPERATION WHILE W.B. McCLUGAGE BRIDEGE IS CLOSED. ALL BRIDGE LIGHTING WORK ON THE WEST BOUND McCLUGAGE BRIDGE SHALL BE COMPLETED WITH W.B. McCLUGAGE BRIDGE WORK. THEN THE E.B. McCLUGAGE BRIDGE LIGHTING SHALL BE COMPLETED WITH THE E.B. McCLUGAGE BRIDGE WORK.

ANY UNEXPECTED CONDITIONS ENCOUNTERED SHALL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

FOR INFORMATION ONLY
FUTURE LIGHTING IS SHOWN FOR INFORMATION ONLY.

PAY ITEMS		
Z0008900	REMOVE AND RELOCATE EXISTING LIGHT STANDARD	4 EACH
66030200	ELECTRIC CABLE IN CONDUIT, 600V (XLP – TYPE USE) 1/C NO. 10	440 LIN. FT
66100115	UNIT DUCT 2# 10XLP, 1#10XLP GROUND 3/4" POLYTHYLENE	320 LIN. FT

LIGHTING THIS CONTRACT

(A) REMOVE AND REINSTALL EXISTING LIGHT

REVISIONS	
NAME	DATE
Design	9-20-91

ILLINOIS DEPARTMENT OF TRANSPORTATION
INTERCHANGE DESIGN STUDY

BRIDGE LIGHTING PLAN

SCALE: 1" = 50'

DATE

REVISED 3/11/93

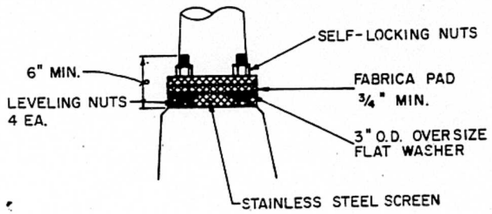
143-154

22-FEB-91 08:49:25
ZFile(13,0008)P-410185AA.DGN

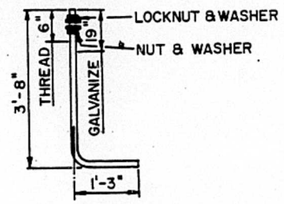
ROUTE	SECTION	COUNTY	TOTAL SHTS	SHEET #
US 150	*	PEO/TAZ		216
FED. RD. DIST. #7	ILLINOIS	FEDERAL AID PROJ.		

SHEET # SHEETS

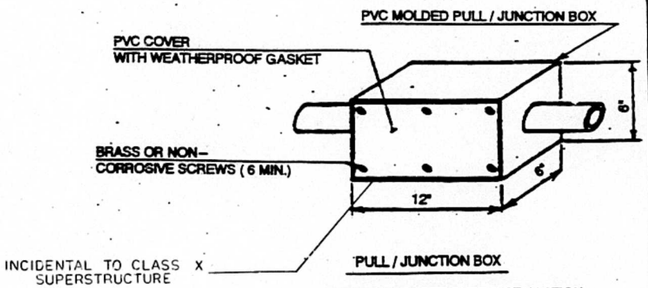
* 13W & RS-2, 14W & RS(15B-1)1



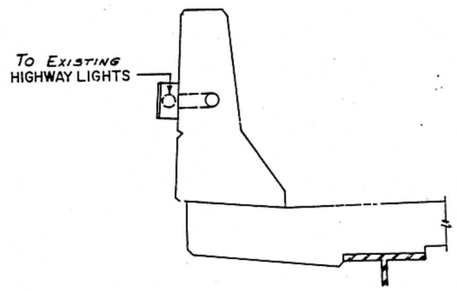
DETAIL "B"



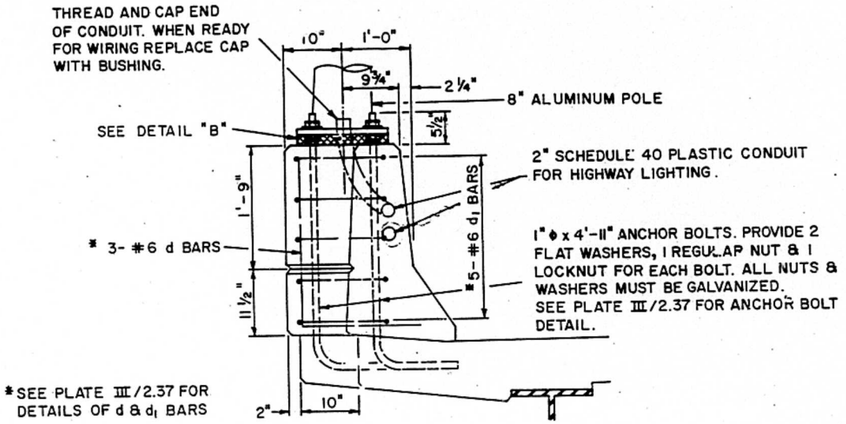
1"ϕ ANCHOR BOLT



OUTSIDE PARAPET CURB INSTALLATION
L & N CIRCUITS

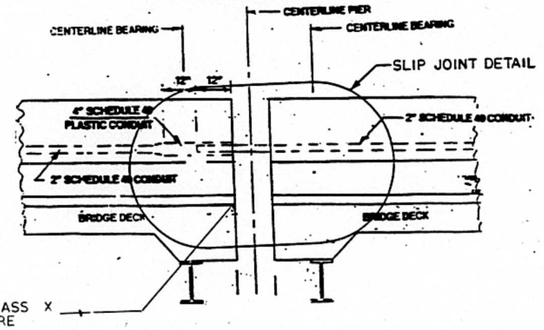


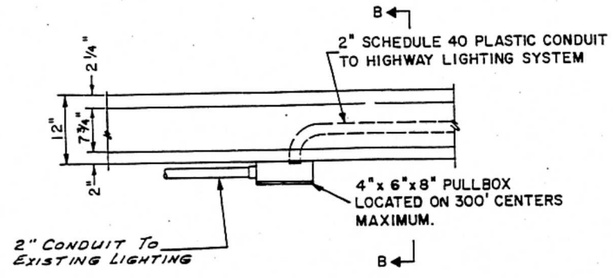
SECTION B-B



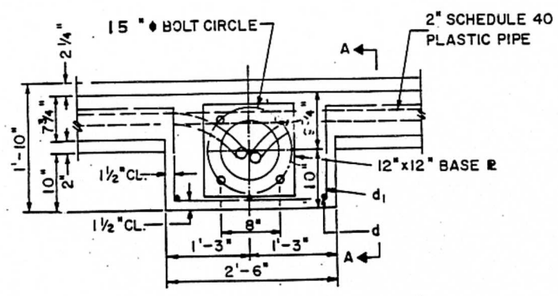
SECTION A-A

SLIP JOINT DETAIL





PLAN



PLAN

NOTE: COST OF ANCHOR BOLTS & CONDUIT IS INCIDENTAL TO "CLASS X CONC. SUPERSTRUCTURE."

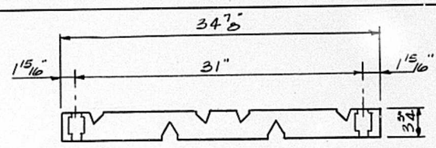
DRAWN BY: C.L. PUTNAM	
OCTOBER 3, 1982	
REVISED	1-7-85
	3-3-93

DETAIL OF LIGHTING CONNECTIONS AND SLIP JOINT DETAIL

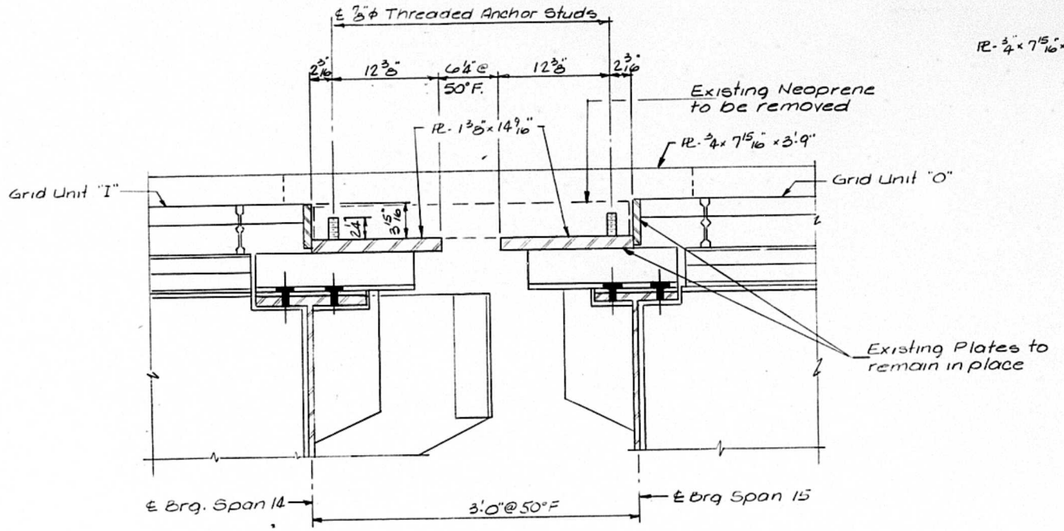
REVISED 3/12/93

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	15B-1-7	PEORIA-TAZEWELL		216A
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

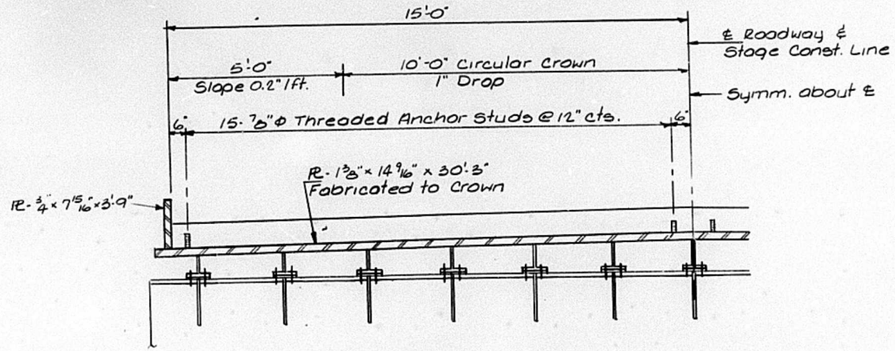
Sheet 1 of 1



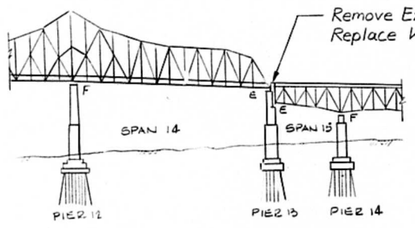
NEW NEOPRENE EXPANSION JOINT (9")



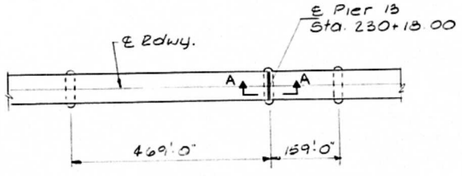
SECTION A-A
Showing Existing Conditions



HALF CROSS SECTION
Showing Existing Conditions



PARTIAL ELEVATION
McClugage Bridge - East Bound Lanes



PARTIAL PLAN

GENERAL NOTES

1. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING NEOPRENE EXPANSION JOINT AND REPLACE WITH A NEW NEOPRENE EXPANSION JOINT (9").
2. AFTER REMOVAL OF THE EXISTING NEOPRENE JOINT MATERIAL, THE EXISTING JOINT MOUNTING AREA SHALL BE CLEANED WITH WIRE BRUSH, AND THE EXISTING STUD CONNECTORS AND MOUNTING PLATES SHALL BE INSPECTED BY THE CONTRACTOR AND THE ENGINEER PRIOR TO PLACING THE NEW JOINT MATERIALS.
3. STAGED CONSTRUCTION IS REQUIRED FOR THIS JOINT REPLACEMENT. ONE LANE MUST REMAIN OPEN AT ALL TIMES.
4. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
5. SEE SPECIAL PROVISIONS.

FRANK L. TILEY
81-3100
LICENSED
STRUCTURAL
ENGINEER
OF 3
ILLINOIS
9-17-93
Frank Tiley

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Neoprene Expansion Joint, 9"	Lin. Ft.	30

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
Engineer of Bridges and Structures

NEOPRENE EXPANSION JOINT
REPLACEMENT - PIER 13
McCLUGAGE BRIDGE (EASTBOUND)
F.A. ROUTE 317 SECTION 15B-1-7.
PEORIA-TAZEWELL COUNTIES
STATION 230+18.00
STRUCTURE NO. 090-0070

Bench Mark: U.S.C. & G.S. Z-234, El. 473.874
Standard Brass Disk set vertically in East face of Westernmost Pier of East Bound McClugage Bridge. Stamped Z-234 1960

Exist. Structure: All exist. substructure with the exception of a proposed new W. Abut. & widened Pier 2, will be re-used with modified pier caps. The Remainder of the Structure is to be Removed, Exist. Superstructure is Non-Composite

DESIGN STRESSES

f'c = 3500 psi (Concrete)
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (Struct. Steel) M270 Gr 36
fy = 50,000 psi (Struct. Steel) M270 Gr 50

DESIGN SPECIFICATIONS

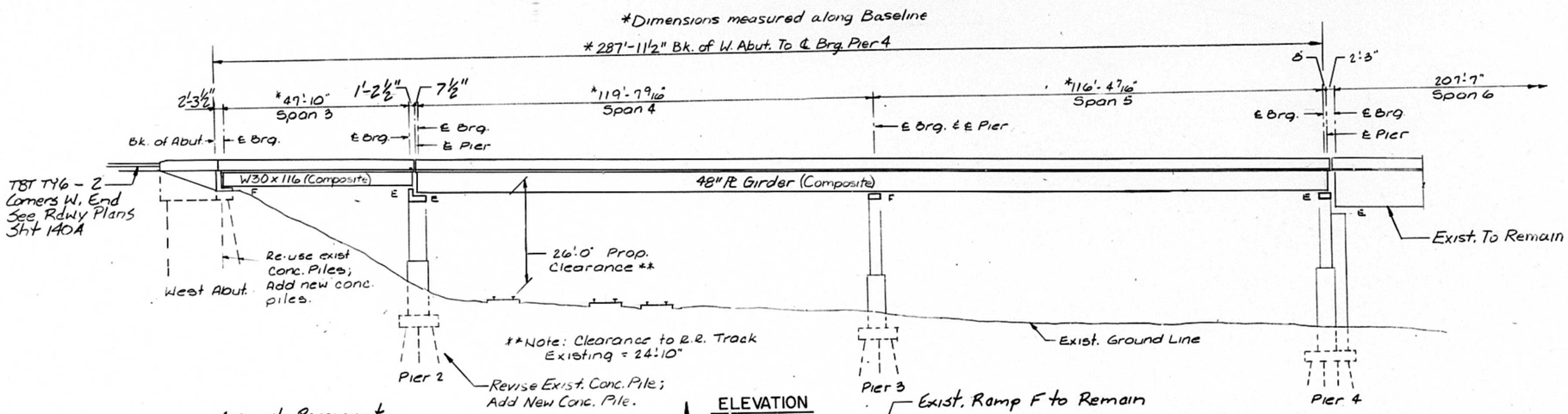
1989 AASHTO (14th Edition)
1990 and 1991 Interims
Seismic Acceleration Coefficient=0.04

LOADING HS 20-44

Allow 25#/sq.ft. for future wearing surface

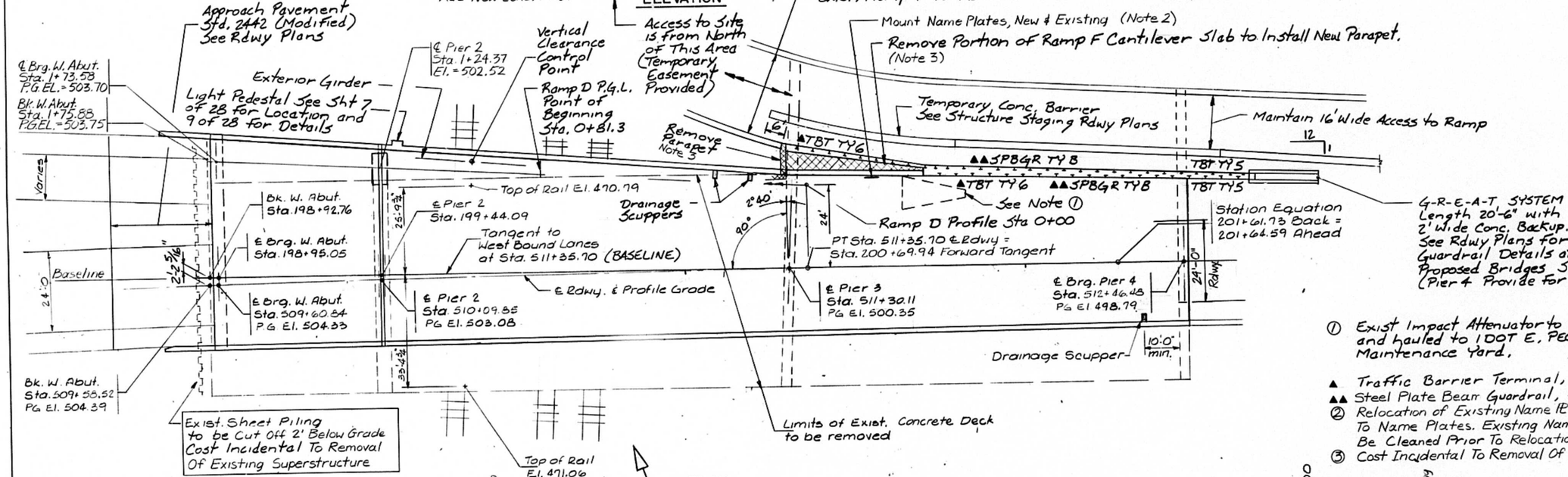
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		217
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sht #1 of 29



ELEVATION

FOR SLIPFORM PARAPET OPTION
SEE SHEET 126 OF THE RDWY PLANS
& CHECK SHEET #37 (RECURRING SPECIAL PROVISIONS)



PLAN

① Exist Impact Attenuator to be Salvaged and hauled to IDOT E. PEORIA Maintenance Yard.

▲ Traffic Barrier Terminal, See Rdwy Plans Sht. 140A
▲▲ Steel Plate Beam Guardrail, See Rdwy Plans Sht. 140A
② Relocation of Existing Name Pl. Is Incidental To Name Plates. Existing Name Plate Shall Be Cleaned Prior To Relocation.
③ Cost Incidental To Removal Of Existing Superstructure

CURVE DATA - P.G. LINE

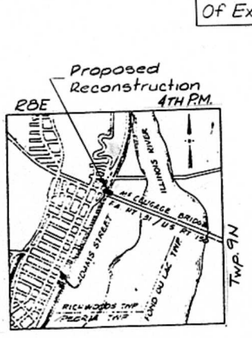
P.I. Sta. 508+51.92

Δ = 4°32'34.05"
D = 0°48'00"
R = 7161.97'
L = 567.849'
E = 5.632'
T = 284.073'
S.E = None

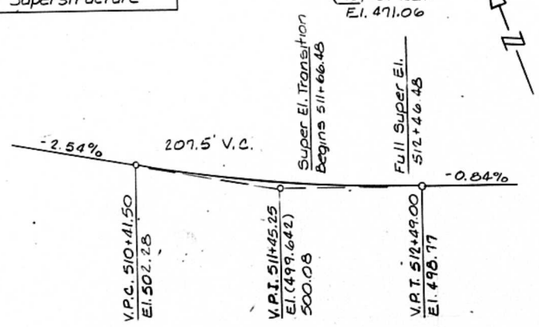
CURVE DATA - RAMP D

P.I. Sta. 2+39.15

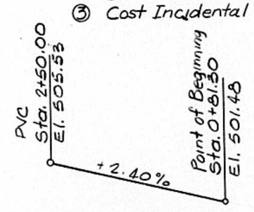
Δ = 3°49'07.14"
D = 0°47'55.18"
R = 7173.97'
L = 478.131'
E = 3.985'
T = 239.154'
S.E. = None



LOCATION SKETCH



PROPOSED ROADWAY PROFILE
West Bound F.A. 317



RAMP D PROFILE

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
Engineer of Bridges and Structures

FRANK L. TILEY 81-3100 LICENSED STRUCTURAL ENGINEER OF 3-17-93 ILLINOIS

Frank L. Tiley
ILLINOIS STRUCTURAL #3100
EXPIRES 11-30-94

RALPH HAHN AND ASSOCIATES, INC.
ENGINEERS · ARCHITECTS · CONSULTANTS
1320 SOUTH STATE STREET
SPRINGFIELD, ILLINOIS 62704

GENERAL PLAN & ELEVATION
McCLUGAGE BRIDGE APPROACHES
FA ROUTE 317
SECTION (15B-1) I
PEORIA COUNTY
STATION 511+30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)I	PEORIA		28
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 2 of 29

SN 090-0115

GENERAL NOTES

1. FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" DIAMETER. OPEN HOLES 13/16" DIAMETER. UNLESS OTHERWISE NOTED.
2. CALCULATED WEIGHT OF STRUCTURAL STEEL = 428190 (M270 GR.50) 50460 (M270 GR.36)
3. ROADWAY EXPANSION GUARDS SHALL BE ASSEMBLED IN THE PROPER POSITION WITH THE ENDS IN PLACE AND SHALL BE LEFT ASSEMBLED FOR SHOP INSPECTION.
4. THE ROADWAY EXPANSION PLATES SHALL BE FLAME CUT AS PROVIDED IN ARTICLE 507.04(1) OF THE STANDARD SPECIFICATIONS.
5. THE ZINC-SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL EXCEPT WHERE OTHERWISE NOTED. THE COLOR OF THE VINYL FINISH COAT SHALL BE MUNSELL NO. 10Y 7/1 (LIGHT GREY).
6. FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
7. ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.
8. THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE TENSION FLANGES, WEBS AND ALL SPLICE PLATE MATERIAL EXCEPT FILL PLATES.
9. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.
10. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
11. BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS. FOR TYPE I ELASTOMERIC BEARINGS, SHIMS OF THE DIMENSIONS OF TOP PLATE SHALL BE PROVIDED AND PLACED AS DETAILED.
12. THE CONTRACTOR SHALL DRIVE TWO CONCRETE TEST PILES IN A PERMANENT LOCATION AT THE WEST ABUTMENT AND AT PIER 2 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.
13. BRIDGE SEAT SEALER SHALL BE APPLIED TO THE TOP SURFACES OF PIER 2 AND PIER 4

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
*	Removal of Existing Superstructures	L.Sum	1		1
	Neoprene Expansion Joint, 2½"	Lin. Ft.	59		59
	Class X Concrete Superstructure	Cu. Yds.	433.6		433.6
	Protective Coat	Sq. Yds.	1834		1834
	Elastomeric Bearing Assembly, Type I	Each		21	21
	Class X Concrete	Cu. Yds.		206.2	206.2
	Furnishing & Erecting Structural Steel	L Sum	1		1
	Stud Shear Connectors	Each	4735		4735
	Reinforcement Bars	Lbs.		300	300
	Reinforcement Bars, Epoxy Cooted	Lbs.	129100	20240	149340
	Furnishing Concrete Piles	Lin. Ft.		312	312
	Driving Concrete Piles	Lin. Ft.		312	312
	Test Piles, Concrete	Each		2	2
*	Name Plates	Each	1		1
*	Drainage Scuppers	Each	3		3
	Reinforced Neoprene Expansion Joint Treatment	Lin. Ft.	46		46
*	Drainage System	L.Sum.		1	1
	Bridge Deck Grooving	Sq. Yds.	1555		1555
	Bridge Seat Sealer	Sq. Ft.		388	388
	Structure Excavation	Cu. Yds.		260	260
	Formed Conc. Repair, Depth Equal or Less 5"	Sq Ft.		18	18
	Concrete Removal	Cu. Yds		101.5	101.5
*	Fabric Formed Concrete Revetment Mat	Sq. Yds.		16	16

* See Special Provisions

STATION 511+30.11
REBUILT 199 BY
STATE OF ILLINOIS
F.A. RT. 317 SEC. (15B-1) I
F.A. PROJ.
LOADING HS 20
STR. NO. 090-0115

LETTERING FOR NAME PLATE

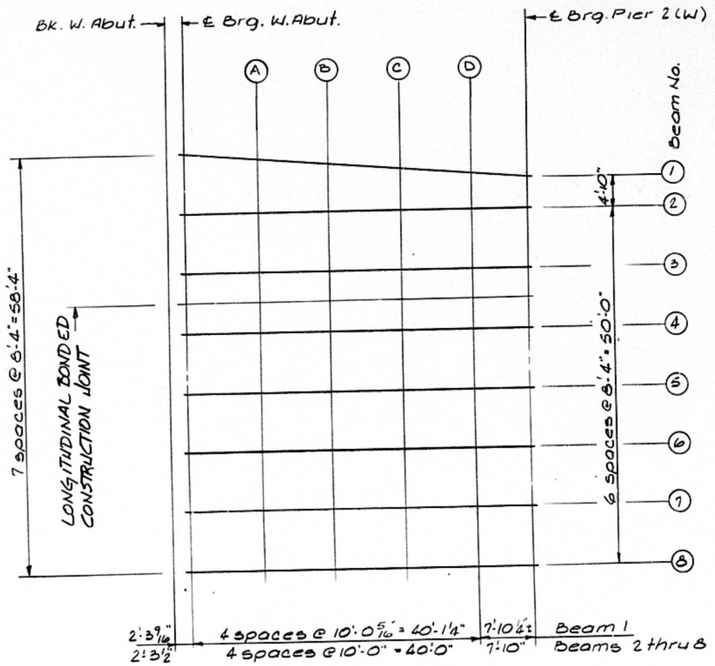
See Standard 2113

Note: Existing Name Plate to be removed, cleaned and relocated adjacent to new Name Plate. (Cost incidental)

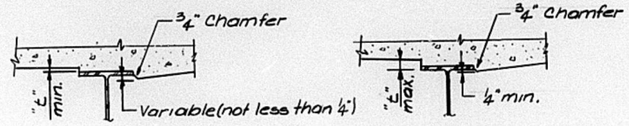
BILL OF MATERIALS
AND DETAILS
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		29
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

Sheet 3 of 29

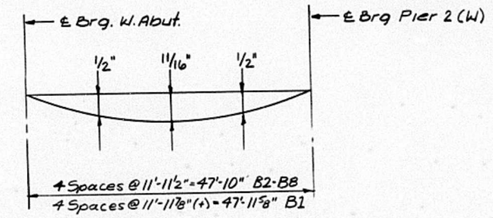


BEAM PLAN



METHOD OF DETERMINING FILLET HEIGHTS "t"

After all Structural Steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown at left. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown in tables, minus slab thickness equals fillet heights "t" above the top flange of the beams.



DEAD LOAD DEFLECTION DIAGRAM

(Includes Weight of Concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the Theoretical Grade Elevations Adjusted for Dead Load Deflection.

NOTE: OFFSETS ARE POSITIVE TO THE LEFT AND NEGATIVE TO THE RIGHT FROM THE REFERENCED PROFILE GRADE LINE WHEN VIEWED LOOKING UPSTATION.

BEAM #1

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	177.720	-4.906	503.693	503.693
CLBWABT	175.425	-4.846	503.639	503.639
A	165.408	-4.591	503.404	503.440
B	155.391	-4.351	503.169	503.225
C	145.372	-4.124	502.933	502.986
D	135.353	-3.911	502.697	502.726
CLBP2W	127.505	-3.754	502.512	502.512

OFFSETS ARE MEASURED FROM THE RAMP D PROFILE GRADE LINE

BEAM #2

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	177.324	3.585	503.842	503.842
CLBWABT	175.034	3.478	503.785	503.785
A	165.041	3.002	503.538	503.573
B	155.049	2.511	503.290	503.346
C	145.059	2.007	503.043	503.096
D	135.070	1.489	502.795	502.824
CLBP2W	127.246	1.073	502.601	502.601

OFFSETS ARE MEASURED FROM THE RAMP D PROFILE GRADE LINE

BEAM #3

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	176.935	11.910	503.963	503.963
CLBWABT	174.642	11.802	503.906	503.906
A	164.637	11.325	503.658	503.694
B	154.634	10.834	503.411	503.466
C	144.632	10.330	503.163	503.216
D	134.631	9.811	502.914	502.943
CLBP2W	126.799	9.395	502.720	502.720

OFFSETS ARE MEASURED FROM THE RAMP D PROFILE GRADE LINE

BEAM #4

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	176.545	20.234	504.111	504.111
CLBWABT	174.249	20.126	504.054	504.054
A	164.233	19.649	503.805	503.840
B	154.218	19.157	503.555	503.611
C	144.204	18.652	503.305	503.358
D	134.192	18.133	503.055	503.084
CLBP2W	126.350	17.716	502.859	502.859

OFFSETS ARE MEASURED FROM THE RAMP D PROFILE GRADE LINE

LONGITUDINAL BONDED CONSTRUCTION JOINT

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	176.741	16.061	504.033	504.033
CLBWABT	174.446	15.954	503.976	503.976
A	164.436	15.477	503.727	503.762
B	154.427	14.985	503.477	503.533
C	144.419	14.480	503.227	503.280
D	134.413	13.961	502.976	503.005
CLBP2W	126.575	13.545	502.780	502.780

OFFSETS ARE MEASURED FROM THE RAMP D PROFILE GRADE LINE

BEAM #5

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	50958.699	8.064	504.257	504.257
CLBWABT	50960.987	8.008	504.200	504.200
A	50970.973	7.771	503.950	503.986
B	50980.960	7.548	503.700	503.756
C	50990.948	7.339	503.449	503.503
D	51000.936	7.144	503.199	503.227
CLBP2W	51008.760	7.001	503.002	503.002

OFFSETS ARE MEASURED FROM THE WEST BOUND PROFILE GRADE LINE

BEAM #6

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	50958.493	-0.266	504.384	504.384
CLBWABT	50960.784	-0.323	504.325	504.325
A	50970.782	-0.560	504.067	504.103
B	50980.780	-0.783	503.810	503.866
C	50990.779	-0.992	503.553	503.606
D	51000.779	-1.188	503.296	503.325
CLBP2W	51008.612	-1.331	503.095	503.095

OFFSETS ARE MEASURED FROM THE WEST BOUND PROFILE GRADE LINE

BEAM #7

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	50958.286	-8.597	504.259	504.259
CLBWABT	50960.580	-8.654	504.200	504.200
A	50970.590	-8.891	503.942	503.978
B	50980.600	-9.115	503.684	503.740
C	50990.610	-9.324	503.427	503.480
D	51000.622	-9.520	503.170	503.198
CLBP2W	51008.464	-9.663	502.968	502.968

OFFSETS ARE MEASURED FROM THE WEST BOUND PROFILE GRADE LINE

BEAM #8

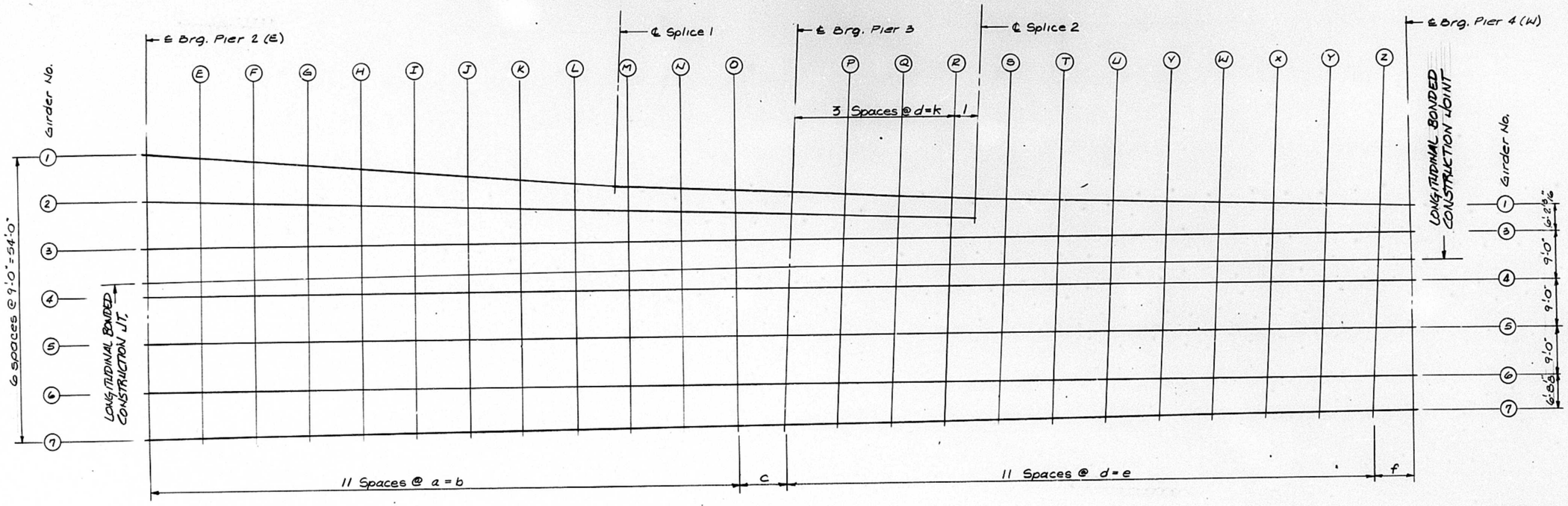
LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	50958.080	-16.928	504.109	504.109
CLBWABT	50960.376	-16.984	504.049	504.049
A	50970.397	-17.222	503.790	503.825
B	50980.419	-17.448	503.531	503.586
C	50990.441	-17.656	503.272	503.325
D	51000.464	-17.852	503.013	503.042
CLBP2W	51008.316	-17.995	502.810	502.810

OFFSETS ARE MEASURED FROM THE WEST BOUND PROFILE GRADE LINE

TOP OF SLAB ELEVATIONS - SPAN 3
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		220
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

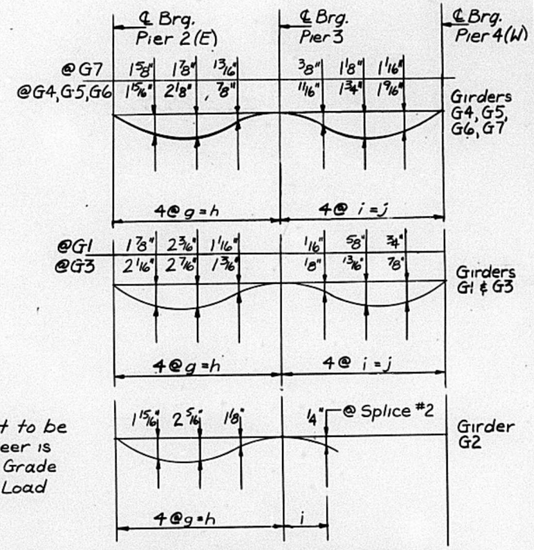
Sheet 4 of 29



GIRDER PLAN

	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6	GIRDER 7
a	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
b	110'-0"	110'-0"	110'-0"	110'-0"	110'-0"	110'-0"	110'-0"
c	11'-2 3/16"	10'-8 15/16"	10'-5 5/16"	10'-0 5/16"	9'-7 1/4"	9'-2 1/4"	8'-9 15/16"
d	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
e	110'-0"		110'-0"	110'-0"	110'-0"	110'-0"	110'-0"
f	5'-1 7/8"		5'-6 11/16"	5'-11 11/16"	6'-4 3/4"	6'-9 3/4"	7'-2 5/16"
g	30'-3 9/16"(-)	30'-2 1/4"(-)	30'-1 5/16"(+)	30'-0 1/16"(+)	29'-10 3/16"	29'-9 1/16"	29'-8 1/2"
h	121'-2 1/2"	120'-8 15/16"	120'-5 5/16"	120'-0 5/16"	119'-7 1/4"	119'-2 1/4"	118'-9 15/16"
i	28'-9 1/2"	28'-10 1/8"(+)	28'-10 5/8"(+)	28'-11 15/16"(-)	29'-1 3/16"	29'-2 1/16"	29'-3 9/16"(-)
j	115'-2"	115'-4 3/8"	115'-6 11/16"	115'-11 11/16"	116'-4 3/4"	116'-9 3/4"	117'-2 3/16"
k		30'-0"					
l		6'-11 9/16"					

Note: All dimensions measured along ℄ girder.



Note: These deflections are not to be used in the field if the engineer is working from the Theoretical Grade Elevations Adjusted For Dead Load Deflection.

DEAD LOAD DEFLECTION DIAGRAM
(Includes Weight of Concrete Only)

TOP OF SLAB ELEVATIONS - SPANS 4 & 5
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		221
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 5 of 29

GIRDER #1

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	125.663	-3.623	502.470	502.470
E	115.643	-3.437	502.234	502.290
F	105.622	-3.266	501.997	502.102
G	95.601	-3.109	501.760	501.902
H	85.580	-2.966	501.523	501.688
I	51060.811	32.215	501.301	501.474
J	51070.760	31.386	501.081	501.246
K	51080.710	30.571	500.869	501.012
L	51090.663	29.770	500.665	500.777
CLSPLIC1	51094.152	29.402	500.595	500.690
M	51101.957	28.960	500.442	500.519
N	51110.576	28.500	500.276	500.320
O	51120.535	27.981	500.091	500.109
CLBP3	51131.400	27.430	499.899	499.899
P	51141.361	26.939	499.731	499.730
Q	51151.338	26.449	499.571	499.581
R	51161.315	25.960	499.419	499.448
CLSPLIC2	51168.299	25.617	499.339	499.383
S	51171.299	25.607	499.329	499.380
T	51181.287	25.356	499.303	499.378
U	51191.275	25.106	499.283	499.379
V	51201.264	24.355	499.269	499.375
W	51211.252	24.604	499.261	499.365
X	51221.240	24.354	499.259	499.346
Y	51231.229	24.103	499.263	499.322
Z	51241.217	23.852	499.273	499.294
CLBP4W	51246.476	23.720	499.280	499.280

OFFSETS ARE MEASURED FROM THE RAMP D PROFILE GRADE LINE FROM LINE H TO THE WEST. FROM LINE I TO THE EAST THE OFFSETS ARE MEASUREDFROM THE WESTBOUND PROFILE GRADE LINE

GIRDER #2

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	125.178	5.364	502.618	502.618
E	115.168	5.132	502.374	502.437
F	105.160	4.886	502.130	502.248
G	95.151	4.626	501.886	502.047
H	85.144	4.351	501.641	501.830
I	51060.739	25.303	501.641	501.610
J	51070.701	24.891	501.184	501.376
K	51080.664	24.493	500.965	501.134
L	51090.627	24.109	500.754	500.890
CLSPLICE	51094.120	23.978	500.682	500.800
M	51101.688	23.699	500.529	500.626
N	51110.558	23.383	500.356	500.415
O	51120.525	23.041	500.169	500.194
CLBP3	51131.177	22.691	499.977	499.977
P	51141.148	22.376	499.808	499.796
Q	51151.134	22.062	499.643	499.647
R	51161.119	21.748	499.488	499.507
CLSPLICE2	51168.109	21.529	499.400	499.433

OFFSETS ARE MEASURED FROM THE RAMP D PROFILE GRADE LINE FROM LINE G TO THE WEST. FROM LINE H TO THE EAST THE OFFSETS ARE MEASU FROM THE WESTBOUND PROFILE GRADE LINE

GIRDER #3

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	124.692	14.351	502.749	502.749
E	114.687	13.805	502.499	502.572
F	104.684	13.244	502.249	502.388
G	94.683	12.670	502.000	502.191
H	84.683	12.082	501.751	501.975
I	51060.662	17.873	501.529	501.766
J	51070.637	17.775	501.297	501.528
K	51080.611	17.692	501.073	501.279
L	51090.587	17.622	500.857	501.024
CLSPLIC1	51094.083	17.600	500.783	500.931
M	51101.374	17.562	500.632	500.753
N	51110.537	17.523	500.448	500.523
O	51120.513	17.495	500.255	500.289
CLBP3	51130.932	17.481	500.063	500.063
P	51140.920	17.479	499.887	499.869
Q	51150.920	17.479	499.718	499.695
R	51160.920	17.479	499.558	499.538
CLSPLIC2	51137.920	17.479	499.462	499.449
S	51170.920	17.479	499.441	499.431
T	51180.920	17.479	499.376	499.383
U	51190.920	17.479	499.319	499.345
V	51200.920	17.479	499.270	499.312
W	51210.920	17.479	499.230	499.278
X	51220.920	17.479	499.198	499.243
Y	51230.920	17.479	499.174	499.206
Z	51240.920	17.479	499.158	499.170
CLBP4W	51246.476	17.479	499.152	499.152

OFFSETS ARE MEASURED FROM THE RAMP D PROFILE GRADE LINE FROM LINE H TO THE WEST. FROM LINE I TO THE EAST THE OFFSETS ARE MEASURED FROM THE WESTBOUND PROFILE GRADE LINE

GIRDER #4

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	51010.637	9.572	502.914	502.914
E	51020.622	9.405	502.663	502.726
F	51030.608	9.251	502.412	502.530
G	51040.594	9.111	502.161	502.320
H	51050.581	8.986	501.912	502.096
I	51060.568	8.874	501.672	501.860
J	51070.555	8.776	501.439	501.615
K	51080.542	8.692	501.215	501.364
L	51090.530	8.622	500.998	501.111
CLSPLI C1	51094.031	8.601	500.924	501.023
M	51100.912	8.564	500.782	500.855
N	51110.506	8.524	500.589	500.627
O	51120.494	8.495	500.396	500.408
CLBP3	51130.507	8.481	500.211	500.211
P	51140.501	8.479	500.034	500.041
Q	51150.501	8.479	499.866	499.894
R	51160.501	8.479	499.705	499.764
CLSPLIC2	51167.501	8.479	499.601	499.684
S	51170.501	8.479	499.568	499.661
T	51180.501	8.479	499.462	499.586
U	51190.501	8.479	499.364	499.512
V	51200.501	8.479	499.275	499.432
W	51210.501	8.479	499.193	499.343
X	51220.501	8.479	499.120	499.246
Y	51230.501	8.479	499.055	499.141
Z	51240.501	8.479	498.998	499.034
CLBP4W	51246.476	8.479	498.968	498.968

OFFSETS ARE MEASURED FROM THE WESTBOUND PROFILE GRADE LINE

GIRDER #5

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	51010.480	0.574	503.059	503.059
E	51020.478	0.406	502.808	502.871
F	51030.476	0.252	502.556	502.674
G	51040.475	0.112	502.304	502.464
H	51050.474	-0.014	502.055	502.238
I	51060.473	-0.126	501.811	501.999
J	51070.473	-0.224	501.575	501.751
K	51080.473	-0.308	501.347	501.496
L	51090.473	-0.378	501.128	501.241
CLSPLI C1	51093.979	-0.399	501.054	501.152
M	51100.449	-0.434	500.918	500.992
N	51110.474	-0.476	500.715	500.754
O	51120.475	-0.505	500.522	500.533
CLBP3	51130.081	-0.519	500.343	500.343
P	51140.082	-0.521	500.166	500.173
Q	51150.082	-0.521	499.997	500.026
R	51160.082	-0.521	499.836	499.895
CLSPLIC2	51167.082	-0.521	499.728	499.811
S	51170.082	-0.521	499.683	499.776
T	51180.082	-0.521	499.539	499.663
U	51190.082	-0.521	499.402	499.550
V	51200.082	-0.521	499.274	499.431
W	51210.082	-0.521	499.154	499.304
X	51220.082	-0.521	499.042	499.168
Y	51230.082	-0.521	498.938	499.025
Z	51240.082	-0.521	498.843	498.878
CLBP4W	51246.476	-0.521	498.786	498.786

OFFSETS ARE MEASURED FROM THE WESTBOUND PROFILE GRADE LINE

LONGITUDINAL BONDED CONST. JOINT

GIRDER #6

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	51010.322	-8.425	502.940	502.940
E	51020.333	-8.593	502.683	502.746
F	51030.344	-8.747	502.427	502.545
G	51040.355	-8.887	502.170	502.330
H	51050.367	-9.013	501.917	502.100
I	51060.379	-9.125	501.672	501.861
J	51070.391	-9.223	501.436	501.612
K	51080.404	-9.308	501.208	501.357
L	51090.416	-9.378	500.989	501.101
CLSPLI C1	51096.628	-9.414	500.859	500.958
M	51100.429	-9.434	500.778	500.851
N	51110.442	-9.476	500.575	500.614
O	51120.456	-9.505	500.381	500.393
CLBP3	51129.655	-9.518	500.210	500.210
P	51139.663	-9.521	500.033	500.040
Q	51149.663	-9.521	499.863	499.892
R	51159.663	-9.521	499.702	499.761
CLSPLIC2	51163.913	-9.521	499.636	499.718
S	51169.663	-9.521	499.549	499.641
T	51179.663	-9.521	499.403	499.528
U	51189.663	-9.521	499.266	499.413
V	51199.663	-9.521	499.137	499.294
W	51209.663	-9.521	499.016	499.166
X	51219.663	-9.521	498.903	499.029
Y	51229.663	-9.521	498.799	498.885
Z	51239.663	-9.521	498.702	498.738
CLBP4W	51246.476	-9.521	498.641	498.641

OFFSETS ARE MEASURED FROM THE WESTBOUND PROFILE GRADE LINE

GIRDER #7

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CLBP2E	51010.164	-17.446	502.775	502.775
E	51020.188	-17.516	502.519	502.572
F	51030.213	-17.572	502.263	502.364
G	51040.238	-17.614	502.008	502.144
H	51050.264	-17.642	501.756	501.913
I	51060.289	-17.655	501.512	501.675
J	51070.314	-17.655	501.277	501.430
K	51080.339	-17.641	501.050	501.182
L	51090.364	-17.613	500.832	500.933
CLSPLI C1	51096.101	-17.591	500.711	500.803
M	51100.389	-17.571	500.623	500.690
N	51110.414	-17.515	500.422	500.458
O	51120.439	-17.445	500.229	500.241
CLBP3	51129.281	-17.371	500.067	500.067
P	51139.301	-17.276	499.890	499.891
Q	51149.306	-17.177	499.722	499.735
R	51159.311	-17.079	499.563	499.595
CLSPLIC2	51163.563	-17.037	499.498	499.545
S	51169.315	-16.981	499.412	499.466
T	51179.320	-16.882	499.271	499.348
U	51189.324	-16.784	499.138	499.232
V	51199.329	-16.685	499.013	499.116
W	51209.334	-16.587	498.896	498.997
X	51219.338	-16.488	498.788	498.873
Y	51229.343	-16.390	498.687	498.747
Z	51239.347	-16.291	498.595	498.621
CLBP4W	51246.476	-16.221	498.534	498.534

OFFSETS ARE MEASURED FROM THE WESTBOUND PROFILE GRADE LINE

WESTBOUND PROFILE GRADE LINE

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	50958.554	0.000	504.387	504.387
CLBWABT	50960.844	0.000	504.329	504.329
A	50970.838	0.000	504.076	504.116
B	50980.833	0.000	503.821	503.886
C	50990.829	0.000	503.567	503.629
D	51000.825	0.000	503.313	503.347
CLBP2W	51008.656	0.000	503.114	503.114
CLBP2E	51010.489	0.000	503.068	503.068
E	51020.486	0.000	502.814	502.877
F	51030.484	0.000	502.560	502.678
G	51040.482	0.000	502.306	502.465
H	51050.480	0.000	502.055	502.239
I	51060.479	0.000	501.813	502.001
J	51070.478	0.000	501.578	501.754
K	51080.477	0.000	501.352	501.501
L	51090.477	0.000	501.134	501.246
M	51100.476	0.000	500.924	500.998
N	51110.476	0.000	500.723	500.761
O	51120.476	0.000	500.530	500.541
CLBP3	51130.106	0.000	500.351	500.351
P	51140.106	0.000	500.174	500.181
Q	51150.106	0.000	500.005	500.033
R	51160.106	0.000	499.844	499.903
S	51170.106	0.000	499.691	499.784
T	51180.106	0.000	499.546	499.671
U	51190.106	0.000	499.410	499.558
V	51200.106	0.000	499.282	499.439
W	51210.106	0.000	499.162	499.312
X	51220.106	0.000	499.050	499.176
Y	51230.106	0.000	498.947	499.033
Z	51240.106	0.000	498.851	498.887
CLBP4W	51246.476	0.000	498.795	498.795

OFFSETS ARE MEASURED FROM THE WESTBOUND PROFILE GRADE LINE

SOUTH LANE LINE OF THE WEST BOUND PROFILE GRADE LINE

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	50958.257	-12.000	504.207	504.207
CLBWABT	50960.551	-12.000	504.149	504.149
A	50970.562	-12.000	503.894	503.930
B	50980.574	-12.000	503.640	503.696
C	50990.586	-12.000	503.386	503.439
D	51000.599	-12.000	503.131	503.160
CLBP2W	51008.443	-12.000	502.932	502.932
CLBP2E	51010.279	-12.000	502.886	502.886
E	51020.293	-12.000	502.631	502.694
F	51030.307	-12.000	502.377	502.495
G	51040.322	-12.000	502.122	502.282
H	51050.337	-12.000	501.871	502.055
I	51060.353	-12.000	501.628	501.817
J	51070.368	-12.000	501.393	501.569
K	51080.384	-12.000	501.167	501.316
L	51090.401	-12.000	500.948	501.061
M	51100.417	-12.000	500.738	500.812
N	51110.434	-12.000	500.536	500.574
O	51120.450	-12.000	500.342	500.354
CLBP3	51129.537	-12.000	500.174	500.174
P	51139.547	-12.000	499.998	500.003
Q	51149.547	-12.000	499.826	499.855
R	51159.547	-12.000	499.665	499.724
S	51169.547	-12.000	499.512	499.604
T	51179.547	-12.000	499.366	499.490
U	51189.547	-12.000	499.228	499.376
V	51199.547	-12.000	499.099	499.256
W	51209.547	-12.000	498.978	499.128
X	51219.547	-12.000	498.865	498.990
Y	51229.547	-12.000	498.760	498.846
Z	51239.547	-12.000	498.664	498.699
CLBP4W	51246.476	-12.000	498.602	498.602

NORTH LANE LINE OF THE WEST BOUND PROFILE GRADE LINE

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	50958.850	12.000	504.192	504.192
CLBWABT	50961.136	12.000	504.134	504.134
A	50971.114	12.000	503.880	503.916
B	50981.092	12.000	503.627	503.683
C	50991.071	12.000	503.373	503.427
D	51001.051	12.000	503.120	503.149
CLBP2W	51008.868	12.000	502.921	502.921
CLBP2E	51010.698	12.000	502.875	502.875
E	51020.679	12.000	502.621	502.690
F	51030.659	12.000	502.368	502.496
G	51040.641	12.000	502.114	502.289
H	51050.623	12.000	501.864	502.068
I	51060.605	12.000	501.622	501.835
J	51070.587	12.000	501.388	501.592
K	51080.569	12.000	501.163	501.340
L	51090.552	12.000	500.945	501.085
M	51100.535	12.000	500.736	500.833
N	51110.518	12.000	500.535	500.591
O	51120.501	12.000	500.342	500.364
CLBP3	51130.673	12.000	500.153	500.153
P	51140.665	12.000	499.977	499.971
Q	51150.665	12.000	499.808	499.811
R	51160.665	12.000	499.648	499.667
S	51170.665	12.000	499.518	499.560
T	51180.665	12.000	499.428	499.494
U	51190.665	12.000	499.346	499.433
V	51200.665	12.000	499.273	499.372
W	51210.665	12.000	499.207	499.306
X	51220.665	12.000	499.150	499.235
Y	51230.665	12.000	499.101	499.160
Z	51240.665	12.000	499.060	499.084
CLBP4W	51246.476	12.000	499.040	499.040

RAMP D SOUTH LANE LINE

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	176.512	13.500	503.977	503.977
CLBWABT	174.216	13.500	503.922	503.922
A	164.199	13.500	503.682	503.717
B	154.183	13.500	503.441	503.497
C	144.168	13.500	503.201	503.254
D	134.155	13.500	502.961	502.989
CLBP2W	126.312	13.500	502.772	502.772
CLBP2E	124.477	13.500	502.728	502.728
E	114.467	13.500	502.488	502.562
F	104.458	13.500	502.248	502.387
G	94.451	13.500	502.008	502.198
H	84.445	13.500	501.768	501.992

OFFSETS ARE MEASURED FROM THE RAMP D PROFILE GRADE LINE

RAMP D PROFILE GRADE LINE

LINE	STATION	OFFSET	THEORETICAL GRADE ELEVATION	ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BKWABT	175.878	0.000	503.751	503.751
CLBWABT	173.577	0.000	503.696	503.696
A	163.541	0.000	503.455	503.491
B	153.506	0.000	503.214	503.270
C	143.473	0.000	502.973	503.027
D	133.441	0.000	502.733	502.761
CLBP2W	125.584	0.000	502.544	502.544
CLBP2E	123.745	0.000	502.500	502.500
E	113.716	0.000	502.259	502.315
F	103.688	0.000	502.019	502.123
G	93.662	0.000	501.778	501.920
H	83.638	0.000	501.537	501.703

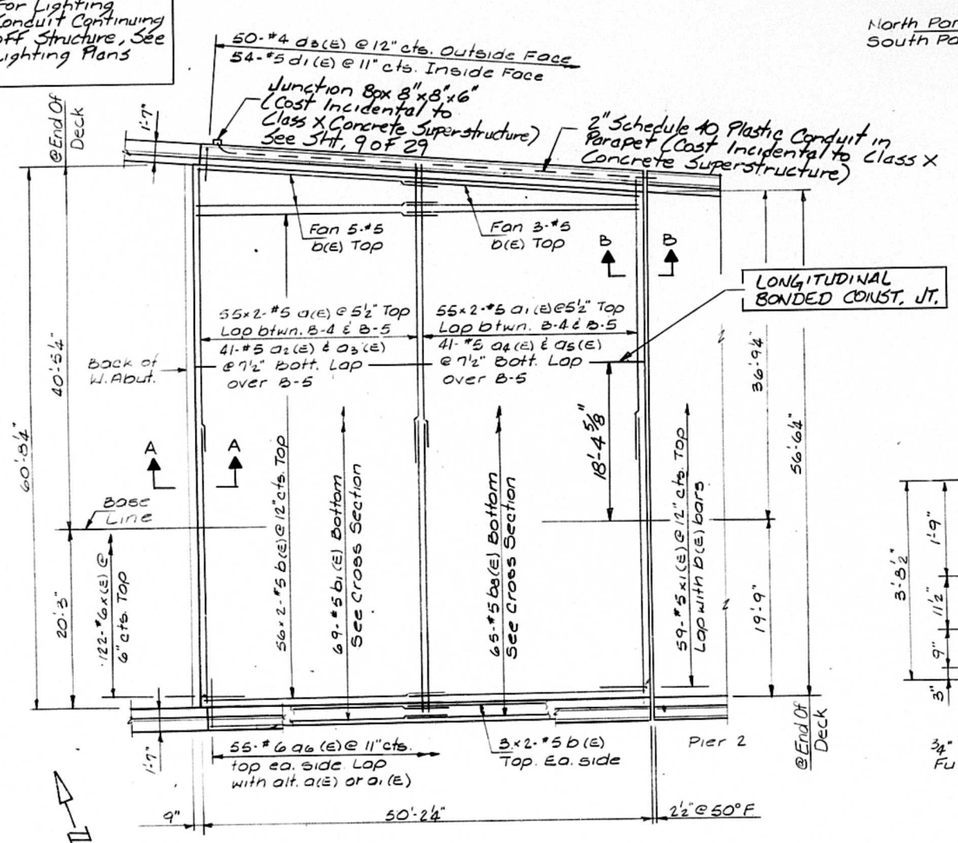
NOTE: OFFSETS ARE POSITIVE TO THE LEFT AND NEGATIVE TO THE RIGHT FROM THE REFERENCED PROFILE GRADE LINE WHEN VIEWED LOOKING UPSTATION.

TOP OF SLAB ELEVATIONS - SPANS 4&5
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

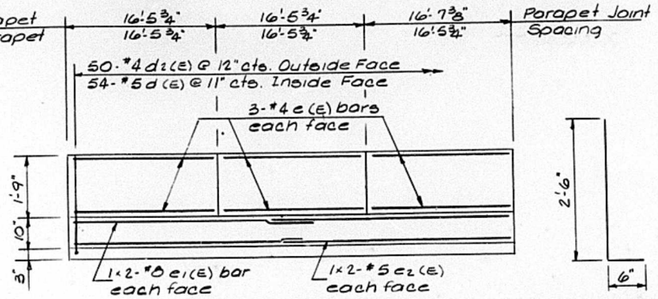
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		222
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS			

Sheet 6 of 29

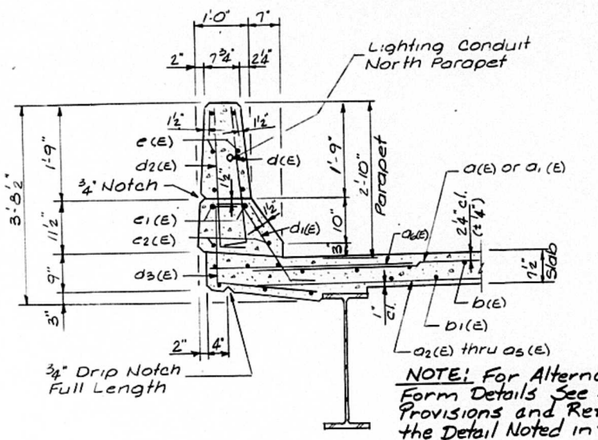
NOTE:
For Lighting Conduit Continuing off Structure, See Lighting Plans



PLAN



ELEVATION OF PARAPET

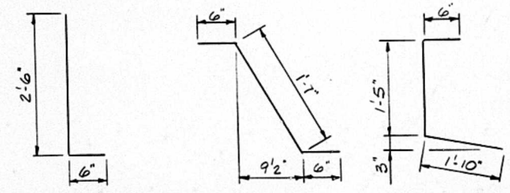


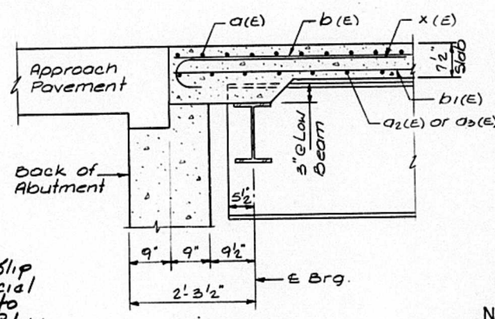
NOTE: For Alternate Slip Form Details See Special Provisions and Refer to the Detail Noted in the Rdwy. Plans.

SECTION THRU PARAPET

MIN. BAR LAPS

#5 (Slab)	2'-6"
#5 (Parapet)	2'-6"
#8 (Parapet)	5'-2"





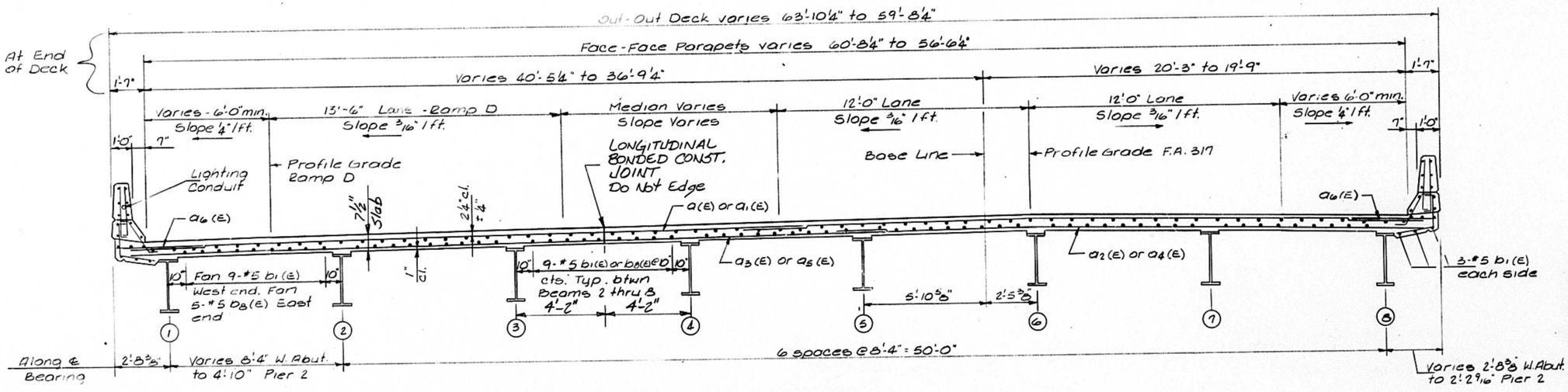
SECTION A-A
West Abutment

SUPERSTRUCTURE - SPAN 3
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	110	#5	32'-4"	
a1(E)	110	#5	31'-4"	
a2(E)	41	#5	28'-1"	
a3(E)	41	#5	36'-5"	
a4(E)	41	#5	27'-10"	
a5(E)	41	#5	34'-5"	
a6(E)	110	#6	4'-0"	
b(E)	182	#5	26'-4"	
b1(E)	69	#5	29'-0"	
ba(E)	65	#5	23'-8"	
d(E)	108	#5	3'-0"	
d1(E)	108	#5	2'-7"	
d2(E)	100	#4	3'-0"	
d3(E)	100	#4	3'-9"	
e(E)	36	#4	16'-3"	
e1(E)	8	#8	27'-3"	
e2(E)	8	#5	25'-11"	
x(E)	122	#6	5'-2"	
x1(E)	59	#5	4'-1"	
Class X Concrete Superstructure			Cu.Yds.	86.7
Reinforcement Bars Epoxy Coated			Lbs.	23530

NOTES

Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 56x2-#5 etc. indicate 56 lines of bars with 2 lengths per line.
For Superstructure Details, see Sheets 8 & 9 of 29.

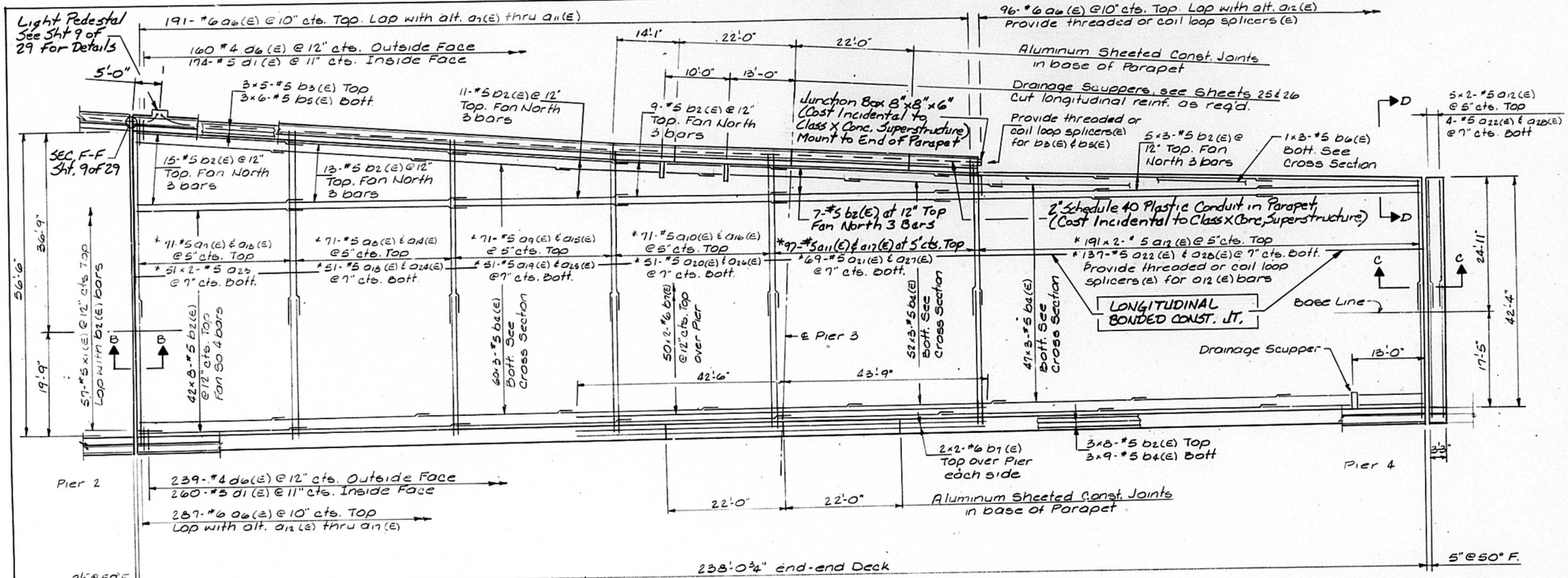


CROSS SECTION - SPAN 3
Looking East

SUPERSTRUCTURE - SPAN 3
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		223
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

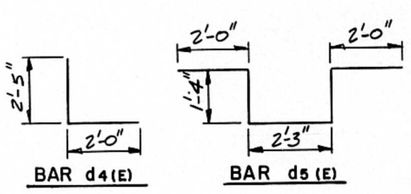
Sheet 7 of 29



* Lap top bars between G-4 & G-5
Lap bottom bars over G-4

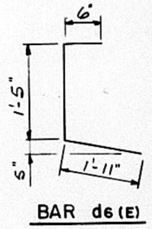
NOTE: For Lighting Conduit Continuing off the Structure, See Lighting Plans.

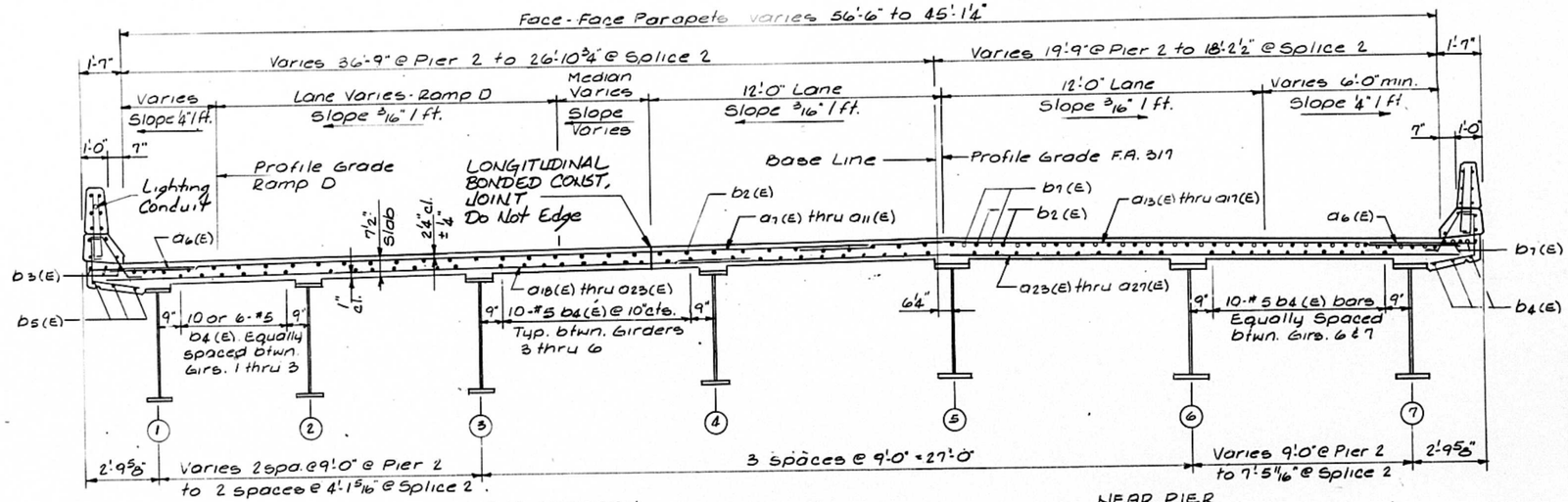
PLAN



MIN BAR LAPS

#5	2'-6"
#6	3'-6"





CROSS SECTION

Cross Section applies from Pier 2 to Splice 2

SUPERSTRUCTURE - SPANS 4 & 5
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a6(E)	574	#6	41'0"	
a7(E)	71	#5	34'9"	
a8(E)	71	#5	32'6"	
a9(E)	71	#5	30'3"	
a10(E)	71	#5	28'0"	
a11(E)	97	#5	26'6"	
a12(E)	392	#5	24'3"	
a13(E)	71	#5	26'0"	
a14(E)	71	#5	25'9"	
a15(E)	71	#5	25'6"	
a16(E)	71	#5	25'3"	
a17(E)	97	#5	25'0"	
a18(E)	51	#5	28'0"	
a19(E)	51	#5	25'9"	
a20(E)	51	#5	23'9"	
a21(E)	69	#5	22'3"	
a22(E)	141	#5	19'7"	
a23(E)	102	#5	30'3"	
a24(E)	51	#5	30'0"	
a25(E)	51	#5	29'9"	
a26(E)	51	#5	29'6"	
a27(E)	69	#5	29'3"	
a28(E)	141	#5	28'9"	
a29(E)	24	#5	2'0"	
b2(E)	430	#5	32'0"	
b3(E)	15	#5	33'10"	
b4(E)	504	#5	28'5"	
b5(E)	18	#5	28'6"	
b6(E)	3	#5	29'0"	
b7(E)	108	#6	45'0"	
d(E)	434	#5	3'0"	
d1(E)	434	#5	2'7"	
d2(E)	399	#4	3'0"	
d4(E)	3	#6	4'3"	
d5(E)	5	#6	8'11"	
d6(E)	399	#4	3'10"	
c3(E)	30	#4	16'11"	
c4(E)	6	#4	13'10"	
c5(E)	6	#4	14'3"	
c6(E)	24	#4	21'9"	
c7(E)	48	#4	19'9"	
c8(E)	6	#4	17'4"	
c9(E)	6	#4	16'3"	
c10(E)	6	#8	32'0"	
c11(E)	2	#8	13'10"	
c12(E)	2	#8	14'0"	
c13(E)	8	#8	21'9"	
c14(E)	6	#8	35'11"	
c16(E)	6	#8	35'6"	
c16(E)	6	#5	30'3"	
c17(E)	2	#5	13'10"	
c18(E)	2	#5	14'8"	
c19(E)	8	#5	21'9"	
c20(E)	6	#5	34'2"	
c21(E)	6	#5	33'9"	
x1(E)	57	#5	4'1"	

ITEM	UNIT	TOTAL
Class X Concrete Superstructure	Cu. Yds.	346.9
Reinforcement Bars Epoxy Coated	Lbs.	105,570

NOTES

Reinforcement bars designated (E) shall be epoxy coated.

Bars indicated thus 42×8-#5 etc. indicates 42 lines of bars with 8 lengths per line.

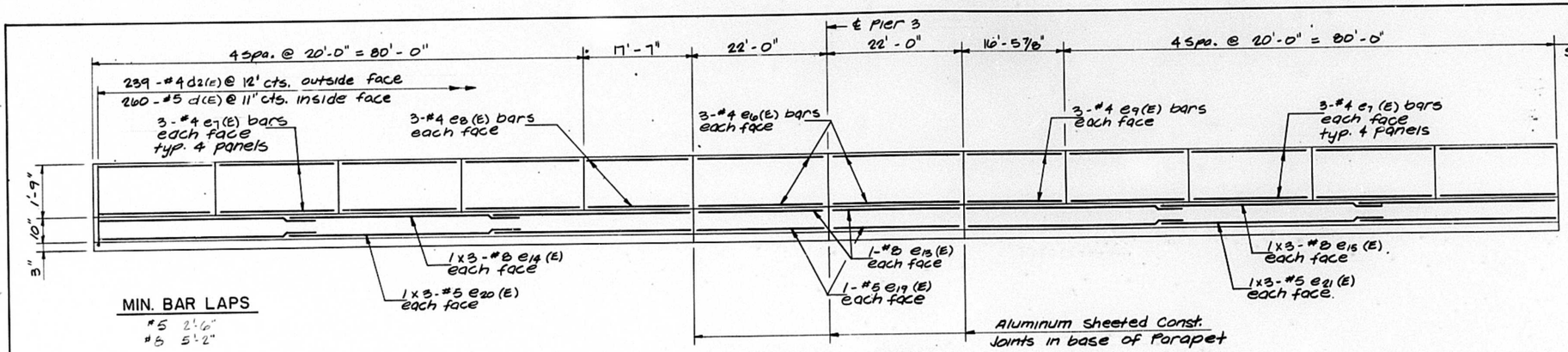
For Superstructure Details see Sheets 8 & 9 of 29

For details of bent bars not shown see Sheet 6 of 29

SUPERSTRUCTURE - SPANS 4 & 5
McCLUGAGE BRIDGE APPROACHES (WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		224
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS			

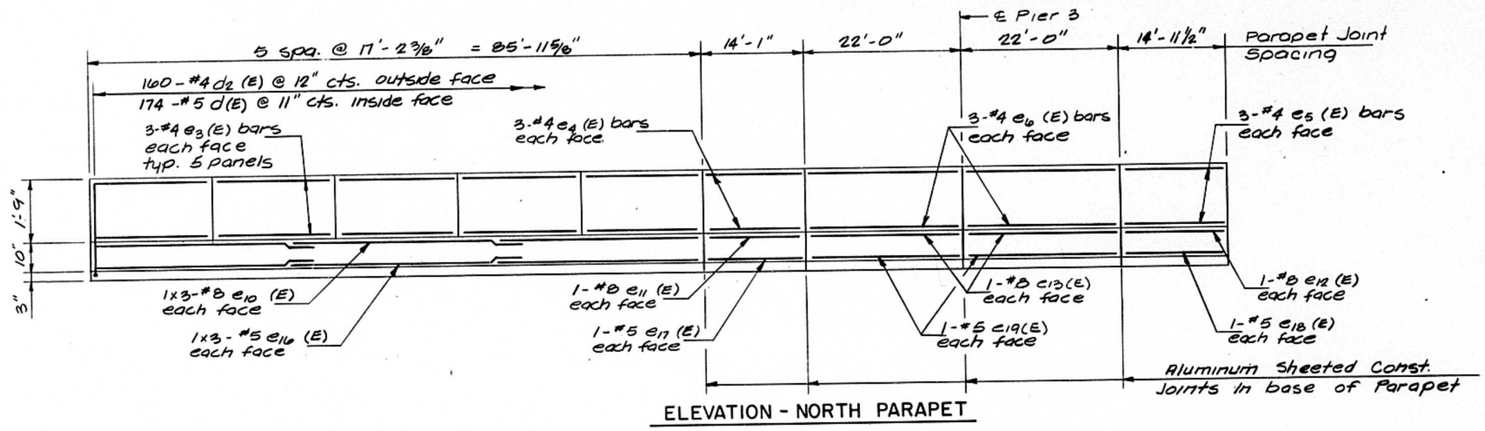
Sheet 8 of 29



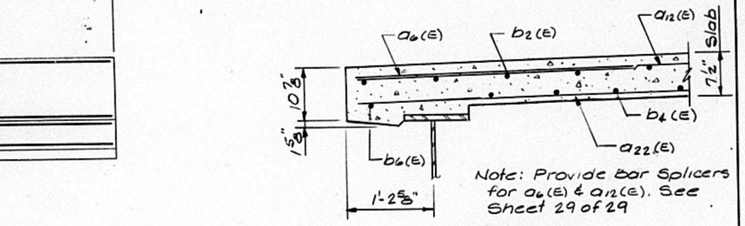
MIN. BAR LAPS

#5 2'-6"
#8 5'-2"

ELEVATION - SOUTH PARAPET

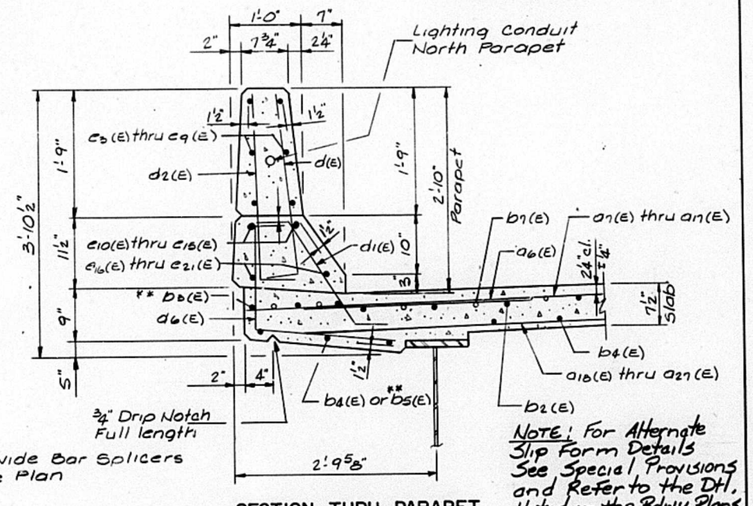


ELEVATION - NORTH PARAPET



Note: Provide bar Splicers for a6(E) & a12(E). See Sheet 29 of 29

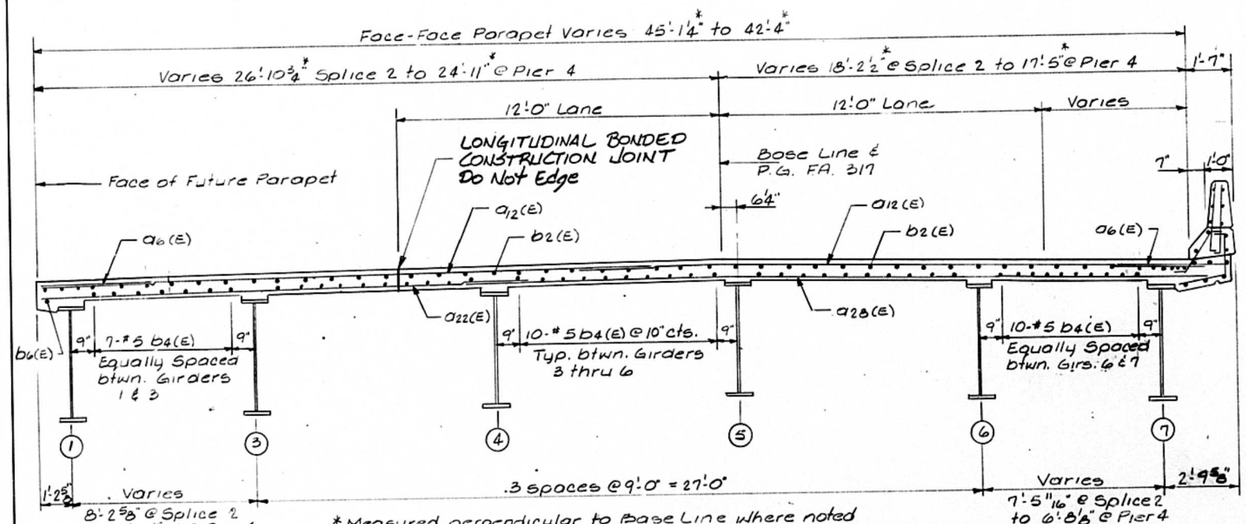
SECTION D-D



** Provide Bar Splicers See Plan

NOTE: For Alternate Slip Form Details See Special Provisions and Refer to the Dtl. Noted in the Rdwy. Plans.

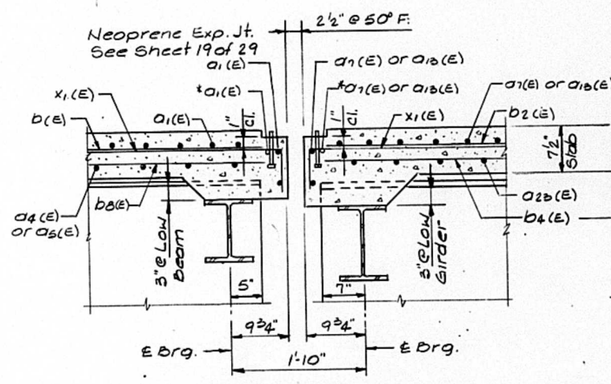
SECTION THRU PARAPET



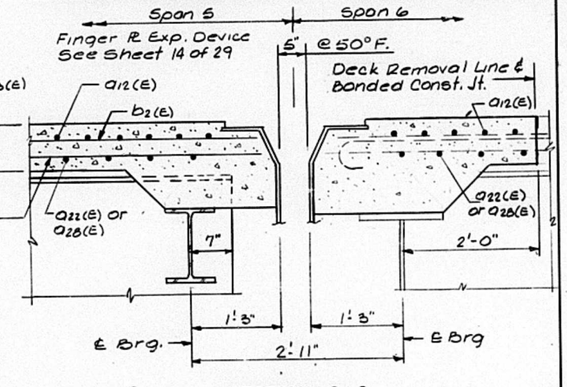
* Measured perpendicular to Base Line where noted

CROSS SECTION

Cross Section Applies from Splice 2 to Pier 4



SECTION B - B
Pier 2



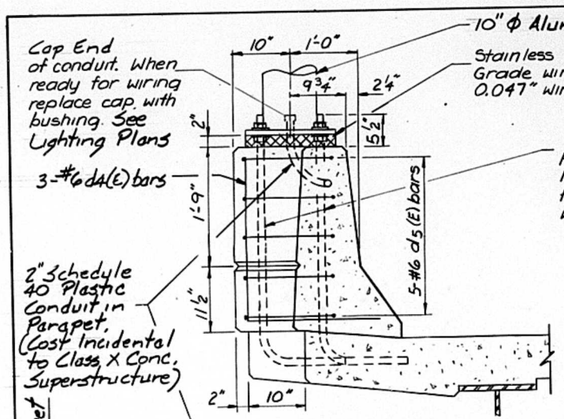
SECTION C-C
Pier 4

* Place a1(E), a7(E) or a13(E) in back of anchor bolt as shown if required to maintain 1" cl. (10, 6). Anchor bolts shall be tied to a1(E), a7(E) or a13(E) bars

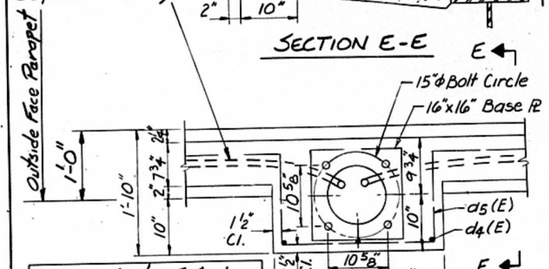
SUPERSTRUCTURE DETAILS
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		225
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

Sheet 9 of 29



SECTION E-E

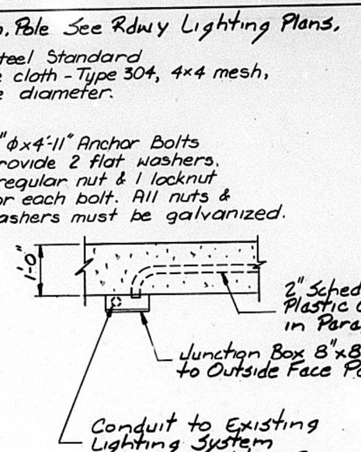


NOTE: Cost of Anchor Bolts, Conduit, Junction Boxes, Base Plates and Accessories is Incidental to Class X Conc. Superstructure

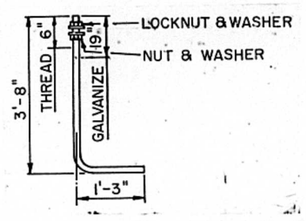
PLAN

See Sht 7 of 29 for Location

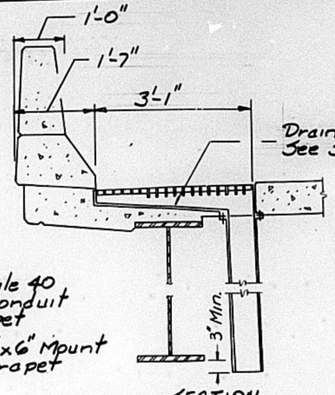
LIGHT PEDESTAL DETAILS



JUNCTION BOX-PLAN



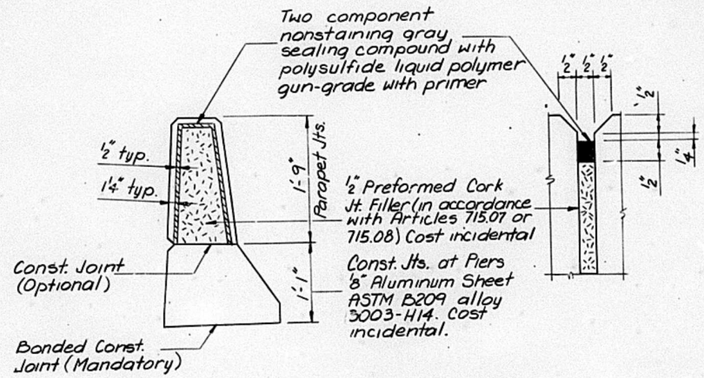
1" ϕ HIGH STRENGTH ANCHOR BOLT (ASTM A687)



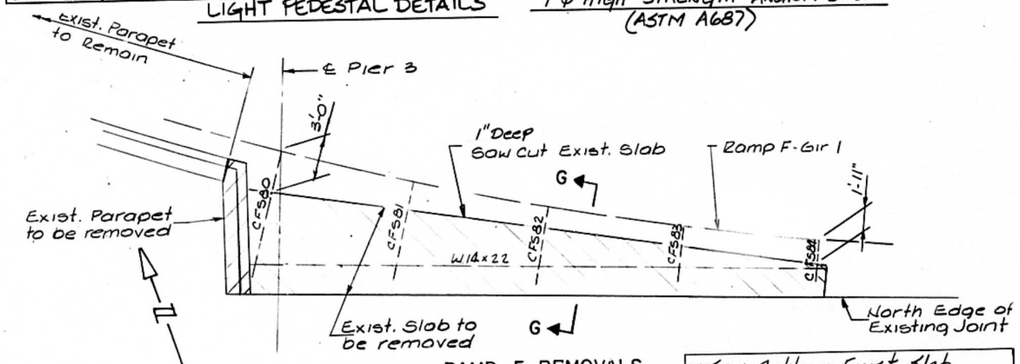
SECTION

PLAN

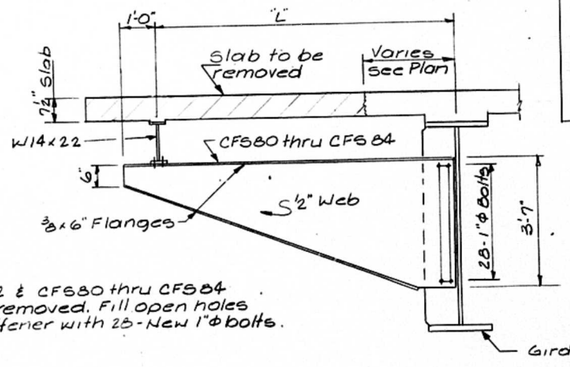
SCUPPER DETAIL



PARAPET JOINT DETAILS



RAMP F REMOVALS

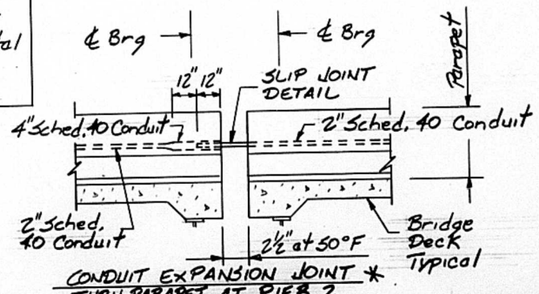


W14x22 & CFS80 thru CFS84 to be removed. Fill open holes in stiffener with 28-New 1" ϕ bolts.

SECTION G-G

Saw Cutting Exist. Slab Removal of Parapet, Slab and Structural Steel as Shown in Ramp F Removal Details is Incidental to Removal of Existing Superstructure

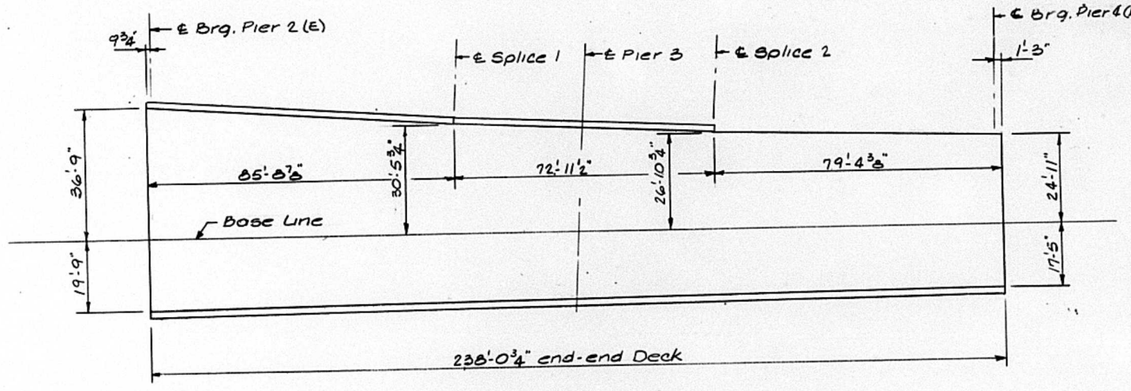
CFS No.	"L"
80	8'-3⅝"
81	6'-1¼"
82	4'-4⅛"
83	3'-0¼"
84	2'-1½"



CONDUIT EXPANSION JOINT * THRU PARAPET AT PIER 2 DECK JOINT

SECTION F-F

* Cost Incidental, to Class X, Concrete Superstructure

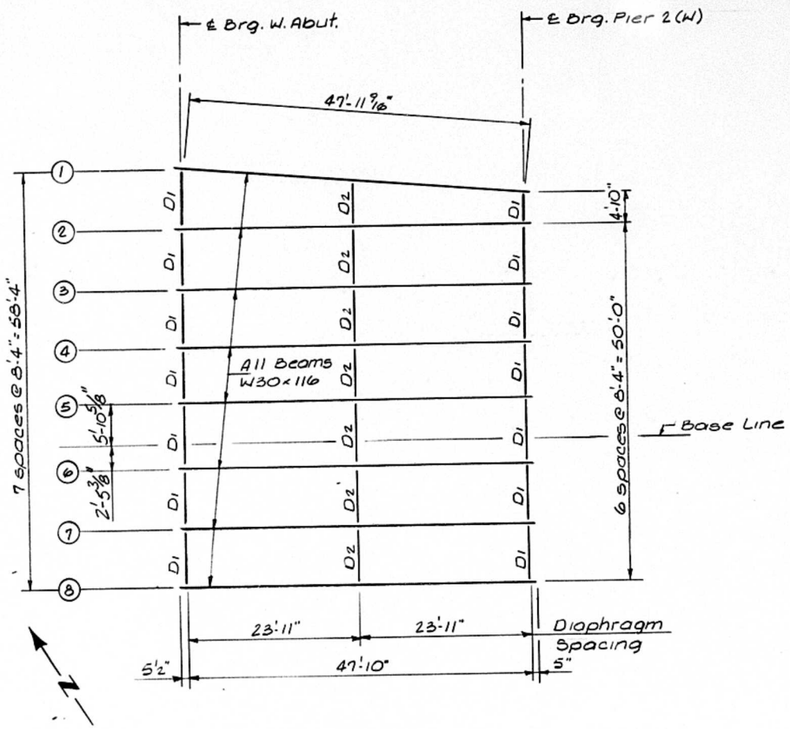


GEOMETRICS - SPANS 4 & 5

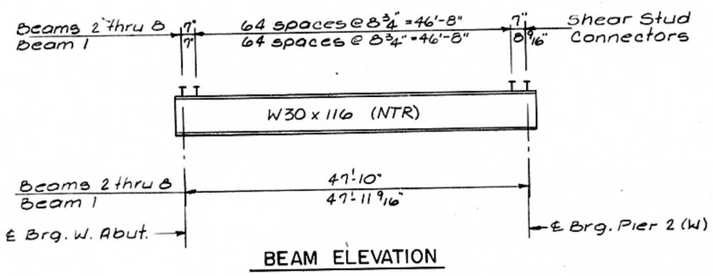
SUPERSTRUCTURE DETAILS
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		206
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

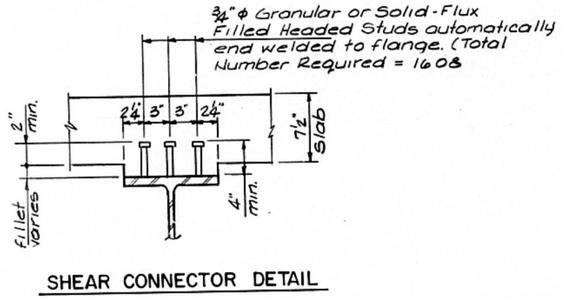
Sheet 10 of 29



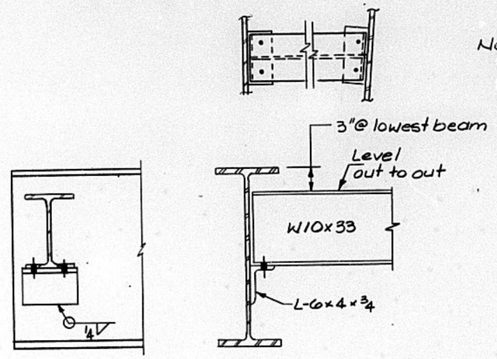
FRAMING PLAN



BEAM ELEVATION



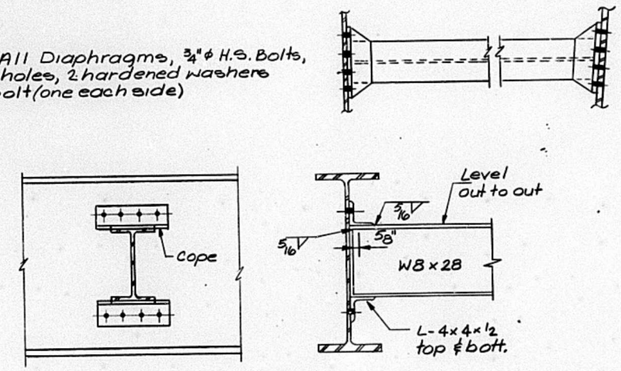
SHEAR CONNECTOR DETAIL



DIAPHRAGM D1

14 Required

Note: All Diaphragms, 3/4" ϕ H.S. Bolts, 15/16" ϕ holes, 2 hardened washers per bolt (one each side)



DIAPHRAGM D2

7 Required

INTERIOR GIRDER MOMENT TABLE:		
LOCATION		0.5 SPAN 3
Is	(in^4)	4830
Ic	(in^4)	13439
Ss	(in^3)	329
Sc	(in^3)	487
Dl	(K/')	0.952
Mdl	('K)	273
sdl	(K/')	0.311
Msdl	('K)	88.9
Mll	('K)	440
Mlmp	('K)	127
5/3 (Mll+Mlmp)	('K)	945
Ma	('K)	1699
Mu	('K)	
fs DL NON-COMP	(ksi)	9.96
fs DL COMP	(ksi)	2.42
fs 5/3(LL+I)	(ksi)	23.3
fs (OVERLOAD)	(ksi)	35.7
fs (TOTAL)	(ksi)	46.4
VR	(K)	63

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs(Total and Overload).
Is and Ss are the moment of inertia and section modulus of the composite section used in computing fs(Total and Overload).
VR is the maximum Live Load + Impact (LL+I) shear range in the span.
Ma is the applied moment = 1.3[Mdl+Msdl+5/3(Mll+Mlmp)].
Mu is the full plastic moment for braced compact sections.
fs(Total) is the sum of the stresses due to 1.3[Mdl+Msdl+5/3(Mll+Mlmp)].
fs(Overload) is the sum of the stresses due to Mdl+Msdl+5/3(Mll+Mlmp).
Mdl is the moment due to dead loads on the non-composite section.
Msdl is the moment due to dead loads on the composite section.
Mll is the moment due to live loads on the non-composite or composite section.
"I" is the live load impact.

INTERIOR GIRDER REACTION TABLE:		
LOCATION		W. ABT/ PIER 2W
R DL	(K)	30.2
R LL	(K)	48.5
Impact	(K)	14.0
R TOTAL	(K)	92.7

TOP OF BEAM ELEVATIONS

Beam Number	1	2	3	4	5	6	7	8
℄ Brg. W. Abut	502.952	503.098	503.219	503.369	503.513	503.638	503.513	503.362
℄ Brg. Pier 2(W)	501.825	501.914	502.033	502.174	502.315	502.408	502.281	502.123

Elevations are on top surface of top flange
Elevations are for fabrication purposes only

Notes:

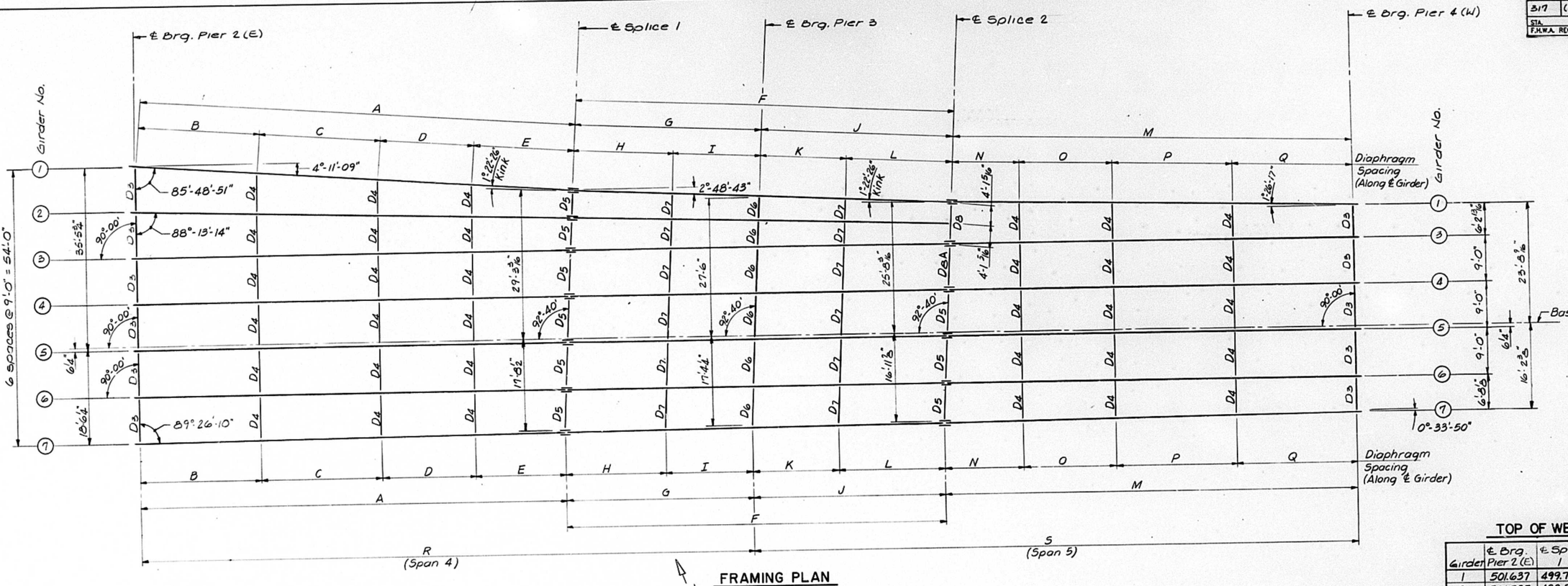
Structural steel for beams shall be M270 (Grade 50).

Members noted NTR indicate Notch Toughness Requirements Zone 2 Are applicable.

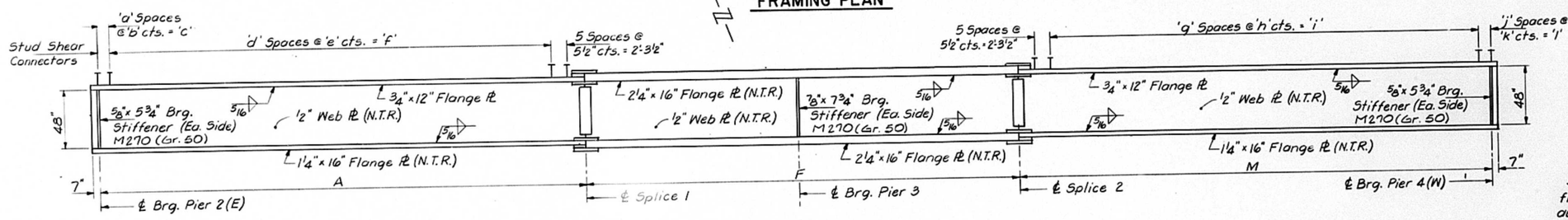
STRUCTURAL STEEL-SPAN 3
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		227
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 11 of 29



FRAMING PLAN



GIRDER ELEVATION

TOP OF WEB ELEVATIONS

Girder	℄ Brg. Pier 2 (E)	℄ Splice 1	℄ Brg. Pier 3	℄ Splice 2	℄ Brg. Pier 4 (W)
1	501.637	499.741	499.016	498.433	498.447
2	501.785	499.817	499.059	498.452	—
3	501.920	499.959	499.141	498.514	498.319
4	502.081	500.101	499.333	498.757	498.135
5	502.226	500.210	499.460	498.884	497.953
6	502.107	500.057	499.328	498.792	497.808
7	501.942	499.888	499.186	498.633	497.701

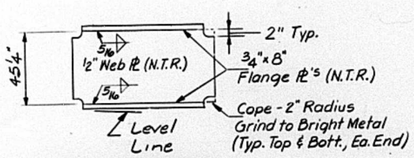
Note: Elevations are for fabrication only.

TABLE OF STUD SHEAR CONNECTOR DIMENSIONS

Girder No.	'a'	'b'	'c'	'd'	'e'	'f'	'g'	'h'	'i'	'j'	'k'	'l'
1	2	10¾"	1'-9½"	71	13⅜"	79'-1⅝"	64	13⅝"	72'-8"	2	8½"	1'-5"
2	2	8"	1'-4"	71	13⅜"	79'-1⅝"	—	—	—	—	—	—
3	2	6"	1'-0"	71	13⅜"	79'-1⅝"	64	13⅝"	72'-8"	2	10¼"	1'-8½"
4	2	8"	1'-4"	76	12⅜"	78'-4½"	75	11¾"	73'-5¼"	2	8¼"	1'-4½"
5	2	5½"	11"	76	12⅜"	78'-4½"	75	11¾"	73'-5¼"	2	10¾"	1'-9½"
6	2	9¼"	1'-6½"	75	12⅜"	77'-4⅛"	76	11¾"	74'-5"	2	7¼"	1'-2½"
7	2	7"	1'-2"	75	12⅜"	77'-4⅛"	76	11¾"	74'-5"	2	9½"	1'-7"

TABLE OF DIMENSIONS ALONG ℄ GIRDER

Girder No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	85'-1⅛"	23'-6¾"	23'-6¾"	20'-0⅝"	17'-11"	73'-0⅛"	36'-1⅝"	18'-0⅝"	18'-0 11/16"	36'-10 13/16"	18'-5⅜"	18'-5 7/16"	78'-3 3/16"	13'-7¾"	18'-0¼"	23'-3⅝"	23'-3 9/16"	121'-2 7/16"	—
2	84'-7⅞"	23'-6⅛"	23'-6⅛"	20'-0⅛"	17'-7⅛"	73'-0⅝"	36'-1⅛"	18'-0½"	18'-0 9/16"	36'-11 9/16"	18'-5¾"	18'-5 15/16"	—	—	—	—	—	—	—
3	84'-3 13/16"	23'-6"	23'-6"	20'-0"	17'-3 13/16"	73'-1½"	36'-1½"	18'-0¾"	18'-0¾"	37'-0"	18'-6"	18'-6"	78'-6 11/16"	14'-0 3/16"	18'-0"	23'-3¼"	23'-3¼"	120'-5 5/16"	115'-6 11/16"
4	83'-10 13/16"	23'-6"	23'-6"	20'-0"	16'-10 13/16"	73'-1½"	36'-1½"	18'-0¾"	18'-0¾"	37'-0"	18'-6"	18'-6"	78'-11 11/16"	14'-5 3/16"	18'-0"	23'-3¼"	23'-3¼"	120'-0 5/16"	115'-11 11/16"
5	83'-5¾"	23'-6"	23'-6"	20'-0"	16'-5¾"	73'-1½"	36'-1½"	18'-0¾"	18'-0¾"	37'-0"	18'-6"	18'-6"	79'-4¾"	14'-10¼"	18'-0"	23'-3¼"	23'-3¼"	119'-7¼"	116'-4¾"
6	83'-0¾"	23'-6"	23'-6"	20'-0"	16'-0¾"	73'-1½"	36'-1½"	18'-0¾"	18'-0¾"	37'-0"	18'-6"	18'-6"	79'-9¾"	15'-3¼"	18'-0"	23'-3¼"	23'-3¼"	119'-2¼"	116'-9¾"
7	82'-8 3/16"	23'-6"	23'-6"	20'-0"	15'-8 3/16"	73'-2"	36'-1¾"	18'-0¾"	18'-0¾"	37'-0¼"	18'-6"	18'-6"	80'-2"	15'-4¼"	18'-0"	23'-3¼"	23'-3¼"	118'-9 15/16"	117'-2¼"



D8 & D8A ELEVATION

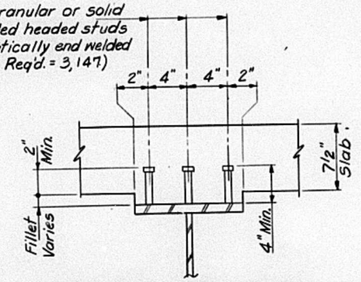
(Also See Sheet 12 of 29)

D8A Similar to D8 Except for the G2 Connecton and the Angle to the Horizontal.

NOTES: Structural Steel for Girders & Diaphragm D8 shall be M270 (Grade 50)

Members noted NTR indicate Notch Toughness Requirements Zone 2 are applicable.

¾"ϕ Granular or solid flux filled headed studs automatically end welded (Total No. Req'd. = 3,147)



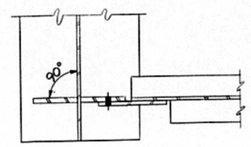
SHEAR CONNECTOR DETAIL

STRUCTURAL STEEL - SPANS 4 & 5
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

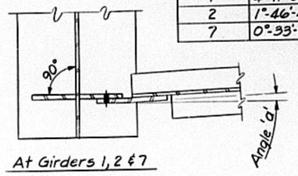
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(158-1) I	PEORIA		228
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

Sheet 12 of 29

Girder No.	'a' at Pier 2(E)	'a' at Pier 4(W)
1	4°-11'-09"	1°-26'-17"
2	1°-46'-46"	—
7	0°-33'-50"	0°-33'-50"

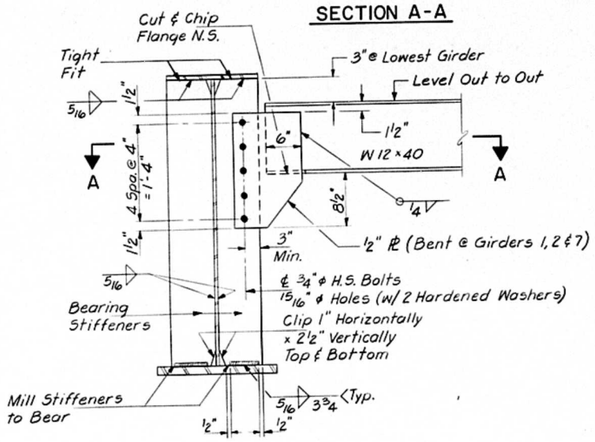


At Girder 3 thru 6

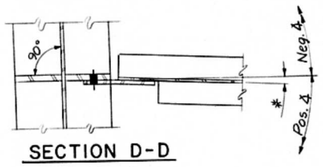


At Girders 1, 2 & 7

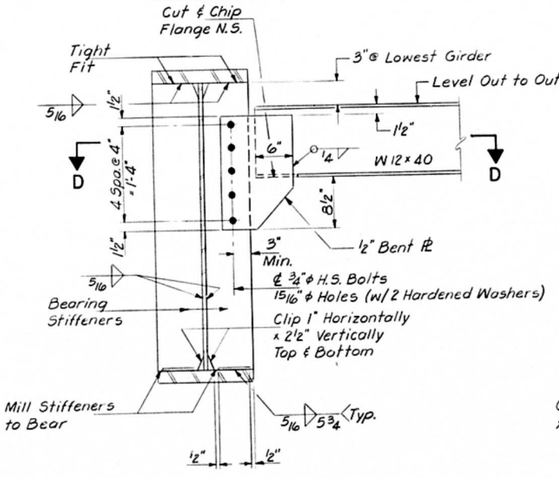
SECTION A-A



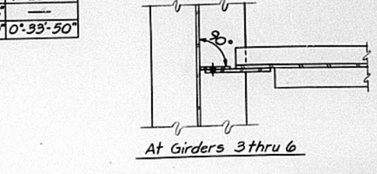
DIAPHRAGM D3
(11 Required)



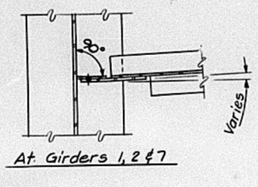
SECTION D-D



DIAPHRAGM D6
(6 Required)

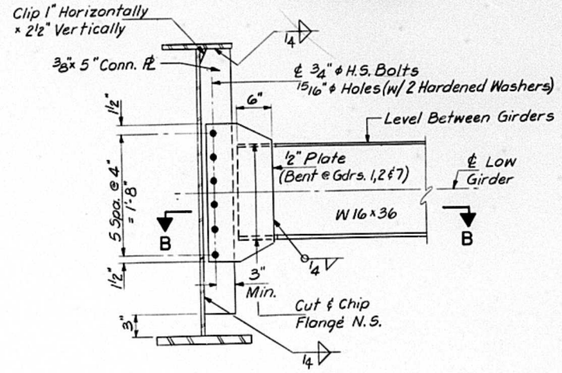


At Girders 3 thru 6

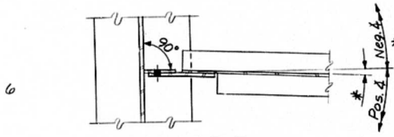


At Girders 1, 2 & 7

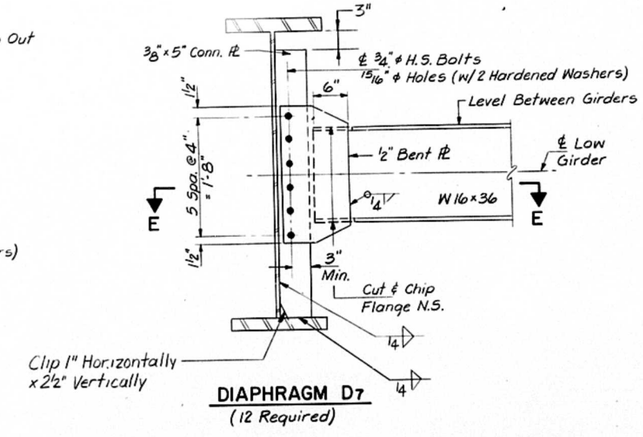
SECTION B-B



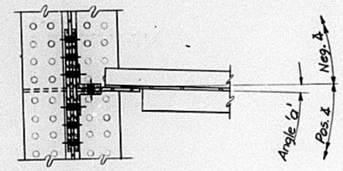
DIAPHRAGM D4
(33 Required)



SECTION E-E

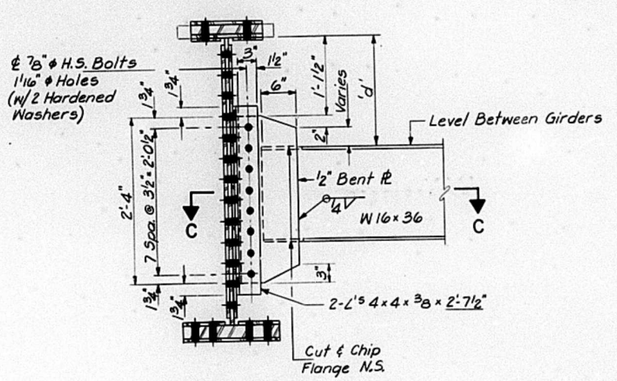


DIAPHRAGM D7
(12 Required)



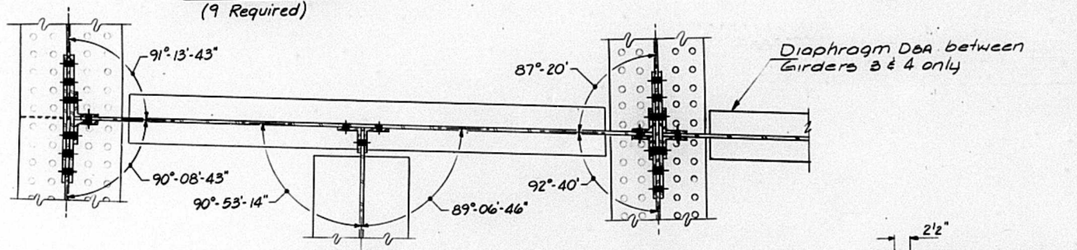
SECTION C-C

Girder No.	'a' at Splice 1	'a' at Splice 2
1	(-)1°-31'-09" W. Side of Splice (-)0°-08'-43" E. Side of Splice	—
2	0°-53'-14"	—
3	2°-40'	2°-40'
4	2°-40'	2°-40'
5	2°-40'	2°-40'
6	2°-40'	2°-40'
7	3°-13'-50"	3°-13'-50"

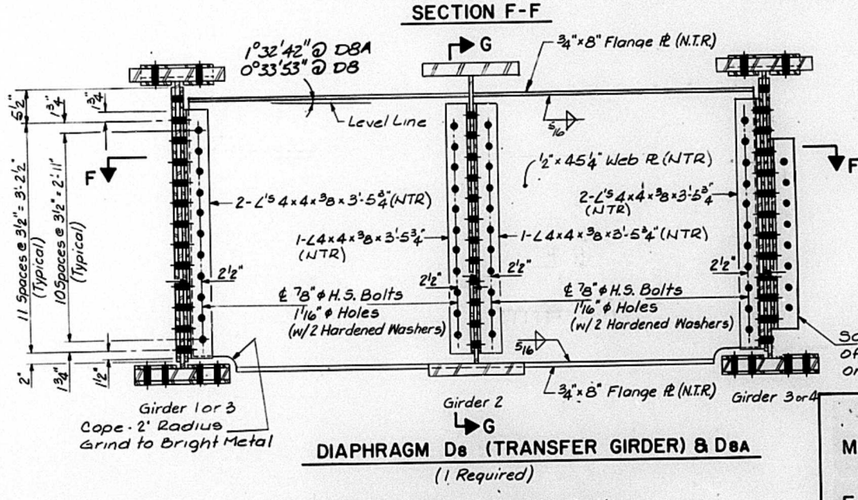


DIAPHRAGM D5
(9 Required)

Girder No.	'd' at Splice 1	'd' at Splice 2
1	1'-4"	—
2	1'-5 1/16"	—
3	1'-6¼"	1'-5½"
4	1'-7 15/16"	1'-7⅛"
5	1'-9½"	1'-8 11/16"
6	1'-7 3/16"	1'-7 9/16"
7	1'-5⅜"	1'-5⅞"

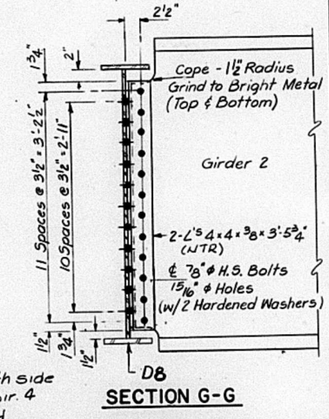


SECTION F-F



DIAPHRAGM D8 (TRANSFER GIRDER) & D8A
(1 Required)

Note: Cut Ends Of Transfer Diaphram To Account For Slope Between Girders 1 & 3

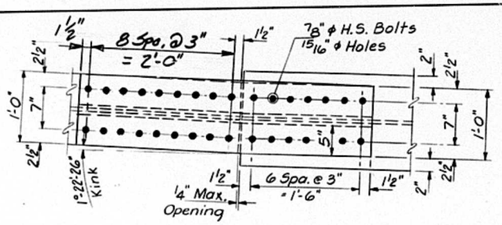


SECTION G-G

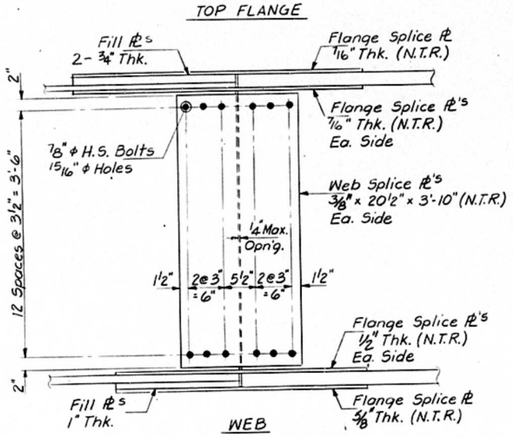
STRUCTURAL STEEL
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B'-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(155-1) I	PEORIA		229
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

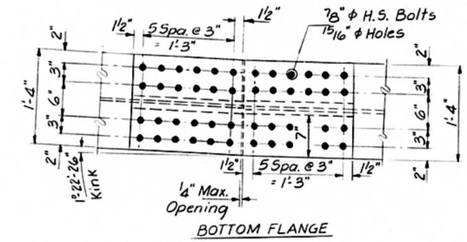
Sheet 13 of 29



TOP FLANGE



WEB



BOTTOM FLANGE

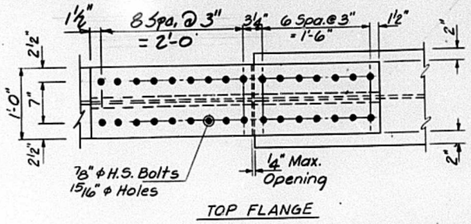
SPLICE 1 - GIRDER 1

INTERIOR GIRDER MOMENT TABLE:		G1 & G3		
LOCATION		0.4 SPAN 4	PIER 3	0.6 SPAN 5
Is	(in^4)	20679	50090	20679
Ic	(in^4)	56965	N/A	56965
Ss	(in^3)	1029	1908	1029
Sc	(in^3)	1437	N/A	1437
DL	(K')	1.033	1.506	1.037
Mdl	('K)	982	2774	650
sdl	(K')	0.339	N/A	0.340
Msdl	('K)	359	N/A	247
Mll	('K)	1242	1149	1093
Mlmp	('K)	253	236	227
5/3 (Mll+Mlmp)	('K)	2492	2308	2200
Ma	('K)	4984	6607	4026
fs DL NON-COMP	(ksi)	11.5	17.4	7.6
fs DL COMP	(ksi)	3.3	N/A	2.3
fs 5/3(LL+I)	(ksi)	20.8	14.5	18.4
fs (OVERLOAD)	(ksi)	35.6	31.9	28.3
fs (TOTAL)	(ksi)	46.3	41.5	36.7
VR	(K)	70	---	68

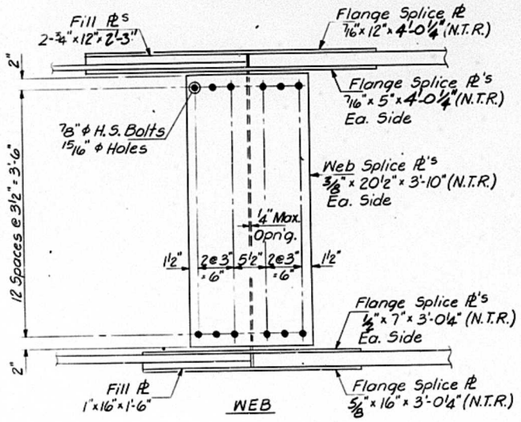
Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs(Total and Overload).
Is and Ss are the moment of inertia and section modulus of the composite section used in computing fs(Total and Overload).
VR is the maximum Live Load + Impact (LL+I) shear range in the span.
Ma is the applied moment = 1.3[Mdl+Msdl+5/3(Mll+Mlmp)].

fs(Total) is the sum of the stresses due to 1.3[Mdl+Msdl+5/3(Mll+Mlmp)].
fs(Overload) is the sum of the stresses due to Mdl+Msdl+5/3(Mll+Mlmp).
Mdl is the moment due to dead loads on the non-composite section.
Msdl is the moment due to dead loads on the composite section.
Mll is the moment due to live loads on the non-composite or composite section.
"I" is the live load impact.

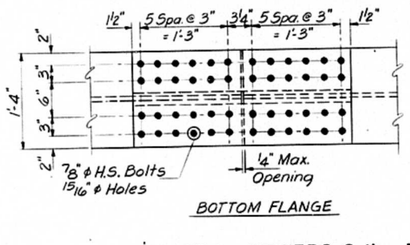
INTERIOR GIRDER REACTION TABLE:		G1 & G3		
LOCATION		PIER 2E	PIER 3	PIER 4
R DL	(K)	61.8	197.0	50.4
R LL	(K)	53.8	93.5	52.6
Impact	(K)	11.0	19.1	10.9
R TOTAL	(K)	126.6	299.6	113.9



TOP FLANGE



WEB



BOTTOM FLANGE

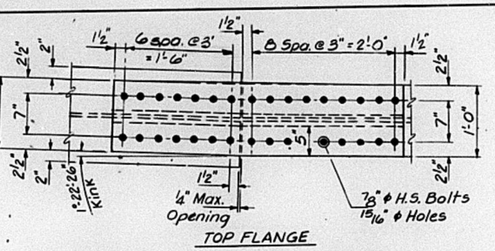
SPLICE 1 - GIRDERS 2 thru 7

INTERIOR GIRDER MOMENT TABLE:		G2		
LOCATION		0.4 SPAN 4	PIER 3	0.6 SPAN 5
Is	(in^4)	20679	50090	20679
Ic	(in^4)	53087	N/A	N/A
Ss	(in^3)	1029	1908	1029
Sc	(in^3)	1405	N/A	N/A
DL	(K')	.934	1.095	/ 2391
Mdl	('K)	928	2391	
sdl	(K')	0.292	N/A	N/A
Msdl	('K)	325	N/A	N/A
Mll	('K)	973	847	
Mlmp	('K)	198	176	
5/3 (Mll+Mlmp)	('K)	1952	1705	
Ma	('K)	4167	5325	
fs DL NON-COMP	(ksi)	10.8	15.0	
fs DL COMP	(ksi)	3.1	N/A	
fs 5/3(LL+I)	(ksi)	16.7	10.7	
fs (OVERLOAD)	(ksi)	30.6	25.7	
fs (TOTAL)	(ksi)	39.8	33.4	
VR	(K)	59	---	

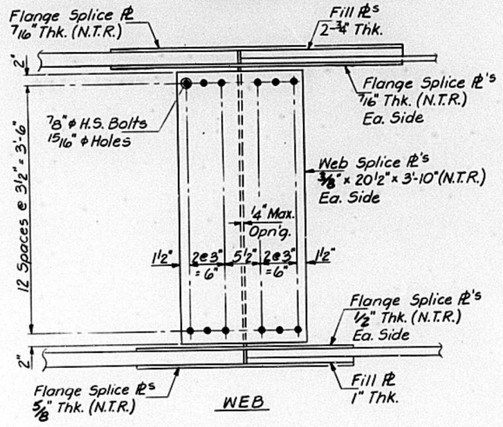
Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs(Total and Overload).
Is and Ss are the moment of inertia and section modulus of the composite section used in computing fs(Total and Overload).
VR is the maximum Live Load + Impact (LL+I) shear range in the span.
Ma is the applied moment = 1.3[Mdl+Msdl+5/3(Mll+Mlmp)].

fs(Total) is the sum of the stresses due to 1.3[Mdl+Msdl+5/3(Mll+Mlmp)].
fs(Overload) is the sum of the stresses due to Mdl+Msdl+5/3(Mll+Mlmp).
Mdl is the moment due to dead loads on the non-composite section.
Msdl is the moment due to dead loads on the composite section.
Mll is the moment due to live loads on the non-composite or composite section.
"I" is the live load impact.

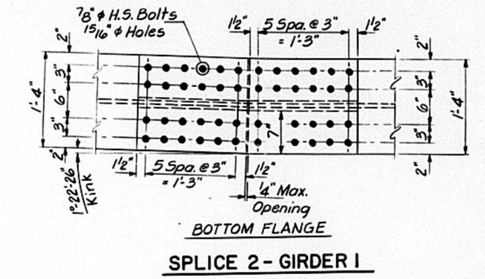
INTERIOR GIRDER REACTION TABLE:		G2		
LOCATION		PIER 2E	PIER 3	CL SPLICE, SPAN 5
R DL	(K)	56.4	181.0	-44.5
R LL	(K)	45.1	72.1	-24.9
Impact	(K)	9.2	14.6	-5.2
R TOTAL	(K)	110.7	267.7	-74.6



TOP FLANGE



WEB



BOTTOM FLANGE

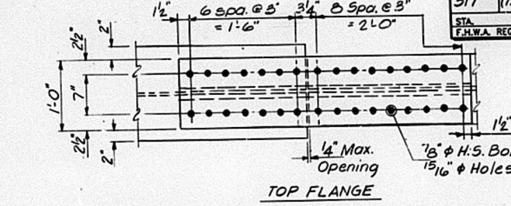
SPLICE 2 - GIRDER 1

INTERIOR GIRDER MOMENT TABLE:		G4, G5, G6, G7		
LOCATION		0.4 SPAN 4	PIER 3	0.6 SPAN 5
Is	(in^4)	20679	50090	20679
Ic	(in^4)	55751	N/A	55751
Ss	(in^3)	1029	1908	1029
Sc	(in^3)	1422	N/A	1422
DL	(K')	1.129	1.650	1.129
Mdl	('K)	961	3316	871
sdl	(K')	0.362	N/A	0.362
Msdl	('K)	349	N/A	316
Mll	('K)	1252	1219	1217
Mlmp	('K)	255	251	252
5/3 (Mll+Mlmp)	('K)	2511	2450	2448
Ma	('K)	4967	7496	4726
fs DL NON-COMP	(ksi)	11.2	20.9	10.2
fs DL COMP	(ksi)	3.2	N/A	2.9
fs 5/3(LL+I)	(ksi)	21.2	15.4	20.7
fs (OVERLOAD)	(ksi)	35.8	36.3	33.8
fs (TOTAL)	(ksi)	48.3	47.2	43.9
VR	(K)	76	---	76

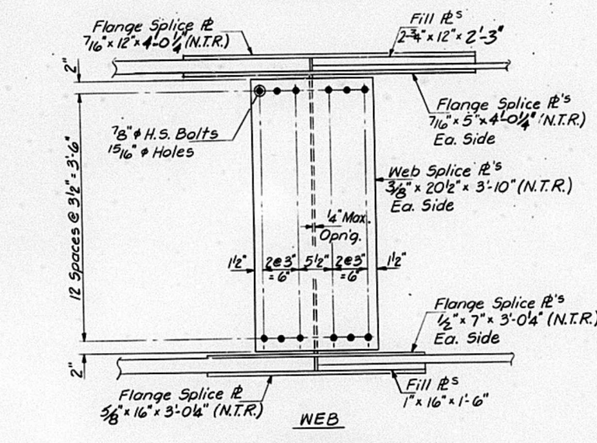
Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs(Total and Overload).
Is and Ss are the moment of inertia and section modulus of the composite section used in computing fs(Total and Overload).
VR is the maximum Live Load + Impact (LL+I) shear range in the span.
Ma is the applied moment = 1.3[Mdl+Msdl+5/3(Mll+Mlmp)].

fs(Total) is the sum of the stresses due to 1.3[Mdl+Msdl+5/3(Mll+Mlmp)].
fs(Overload) is the sum of the stresses due to Mdl+Msdl+5/3(Mll+Mlmp).
Mdl is the moment due to dead loads on the non-composite section.
Msdl is the moment due to dead loads on the composite section.
Mll is the moment due to live loads on the non-composite or composite section.
"I" is the live load impact.

INTERIOR GIRDER REACTION TABLE:		G4, G5, G6, G7		
LOCATION		PIER 2E	PIER 3	PIER 4
R DL	(K)	63.8	236.8	60.8
R LL	(K)	57.3	98.2	57.1
Impact	(K)	11.7	20.2	11.8
R TOTAL	(K)	132.8	355.0	129.5



TOP FLANGE



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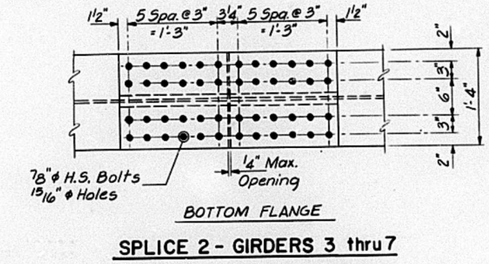
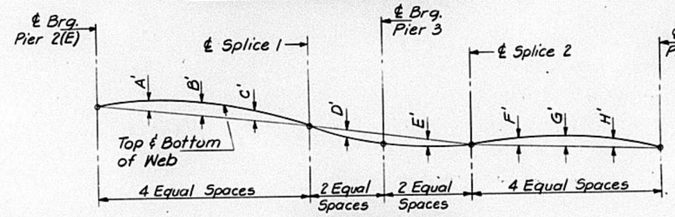


BOTTOM FLANGE

SPLICE 2 - GIRDERS 3 thru 7



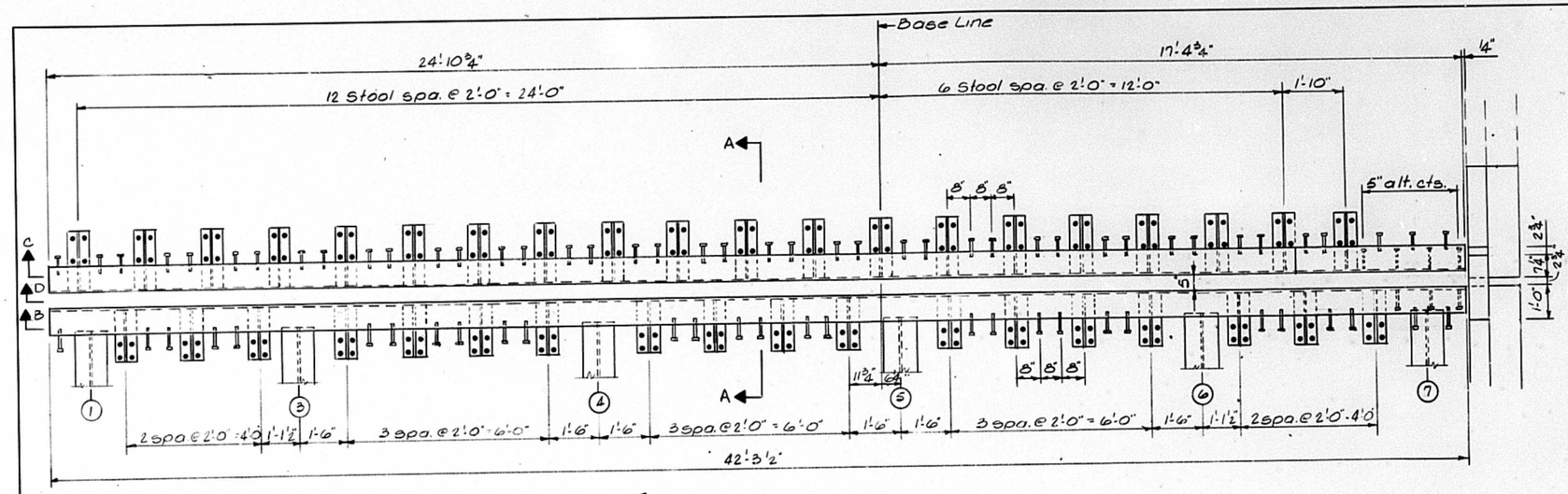
CAMBER DIAGRAM

Girder No.	Pier 2(E) El.	A'	B'	C'	Splice 1 El.	D'	Pier 3 Elev.	E'	Splice 2 El.	F'	G'	H'	Pier 4(W) El.
1	501.637	1'-3⅞"	1'-5⅛"	1'-5⅜"	499.741	3/8"	499.016	1"	498.433	5/8"	7/8"	5/8"	498.447
2	501.185	1'-5"	1'-5⅛"	1'-7⅛"	499.817	1/4"	499.054	1'-3⅛"	498.452	—	—	—	—
3	501.920	1'-3"	2'-1⅛"	1'-9⅛"	499.939	5/16"	499.147	1'-3"	498.514	11/16"	1"	3/4"	498.319
4	502.081	1'-3"	1'-5⅛"	1'-5"	500.101	13/16"	499.333	1'-3⅛"	498.757	1'-3"	1'-3⅛"	1'-3"	498.135
5	502.226	1'-3"	1'-5⅛"	1'-5"	500.201	13/16"	499.460	1'-3⅛"	498.884	1'-3"	1'-3⅛"	1'-3"	497.953
6	502.107	1'-3⅛"	1'-5⅛"	1'-5"	500.057	13/16"	499.328	1'-3⅛"	498.792	1'-3"	1'-3⅛"	1'-3"	497.808
7	501.942	1'-3⅛"	1'-5"	1'-3⅛"	499.888	1/2"	499.186	1'-3⅛"	498.633	3/4"	1'-3"	3/4"	497.701

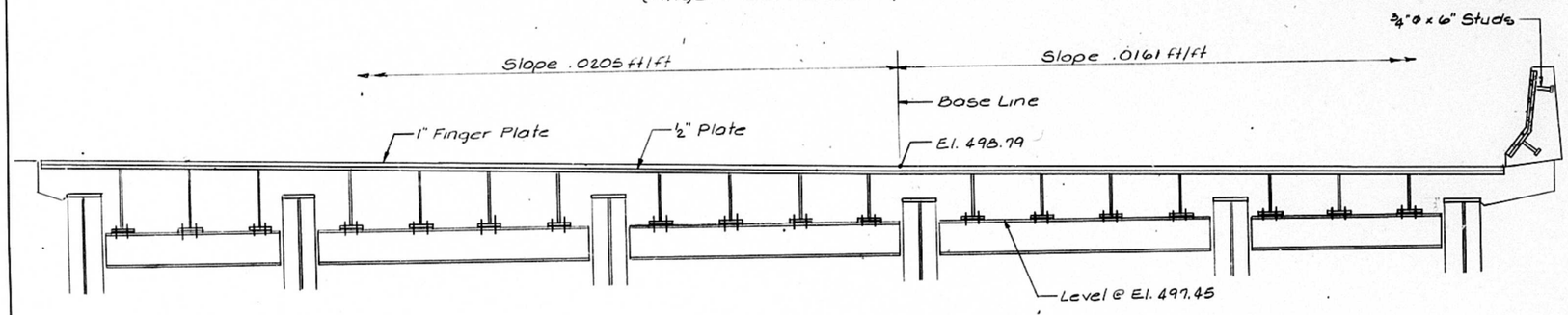
Note: Elevations at Splices are Theoretical before Dead Load Deflection.

STRUCTURAL STEEL
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

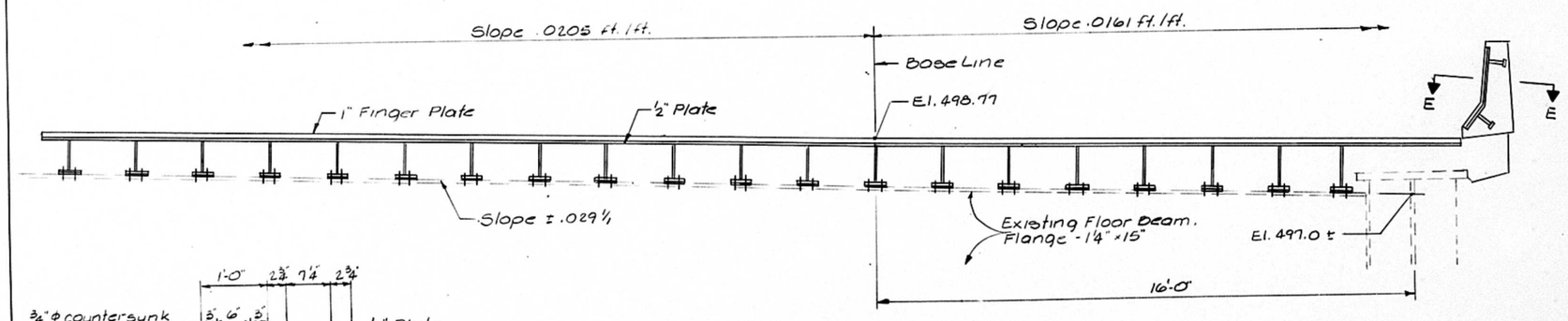
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		230
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		



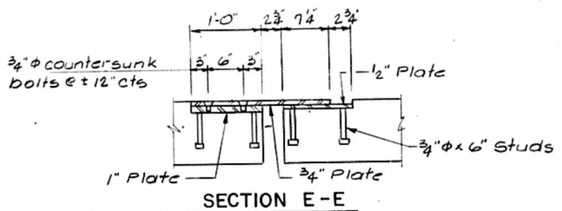
PLAN – PIER 4
Showing Stool Locations
(Finger Plate not shown)



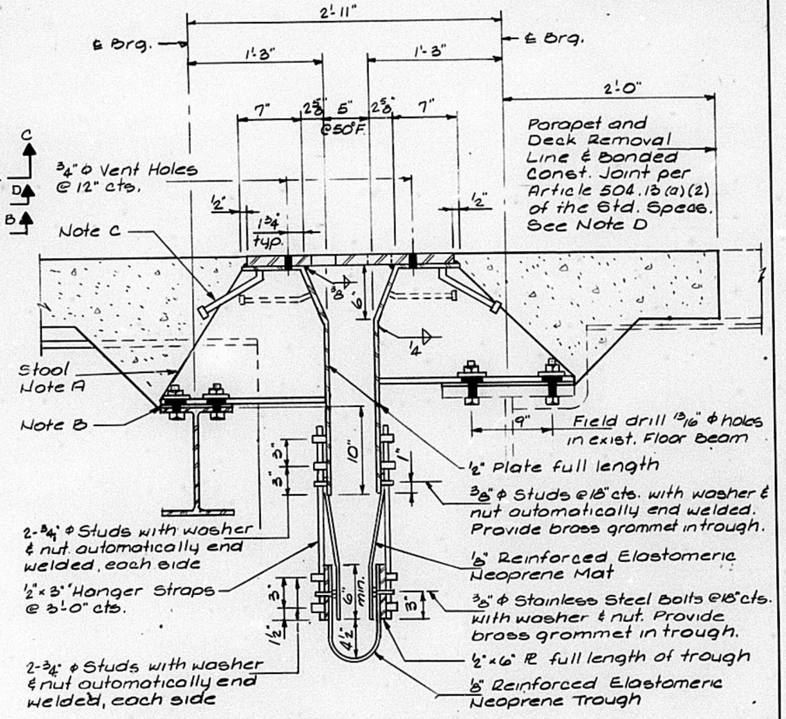
SECTION B–B



SECTION C–C



SECTION E–E



SECTION A–A

Note A: Cut Stools from W21x62. 2"Φ holes in stool flanges, 3"x3"x⅜" square washers, 4-¾"Φ H.S. bolts each connection.

Note B: ¼" normal shim plus one ⅛" & one 1/16" shims for height Adjustment.

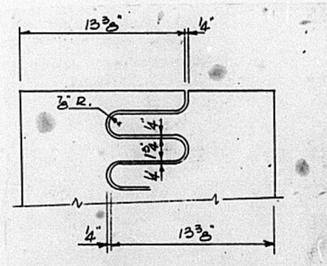
Note C: ¾"Φ x 8" granular or solid flux filled studs conforming to Art. 710.38 of the Standard Specifications.

Note D: All existing longitudinal reinforcement in removal area shall be cleaned, straightened & incorporated into the new construction. For new transverse reinforcement see Superstructure Sheets.

NOTES

Estimated Weight of Expansion Device = 13,280 Lbs.

For Trough Details see Sheet 15 of 29

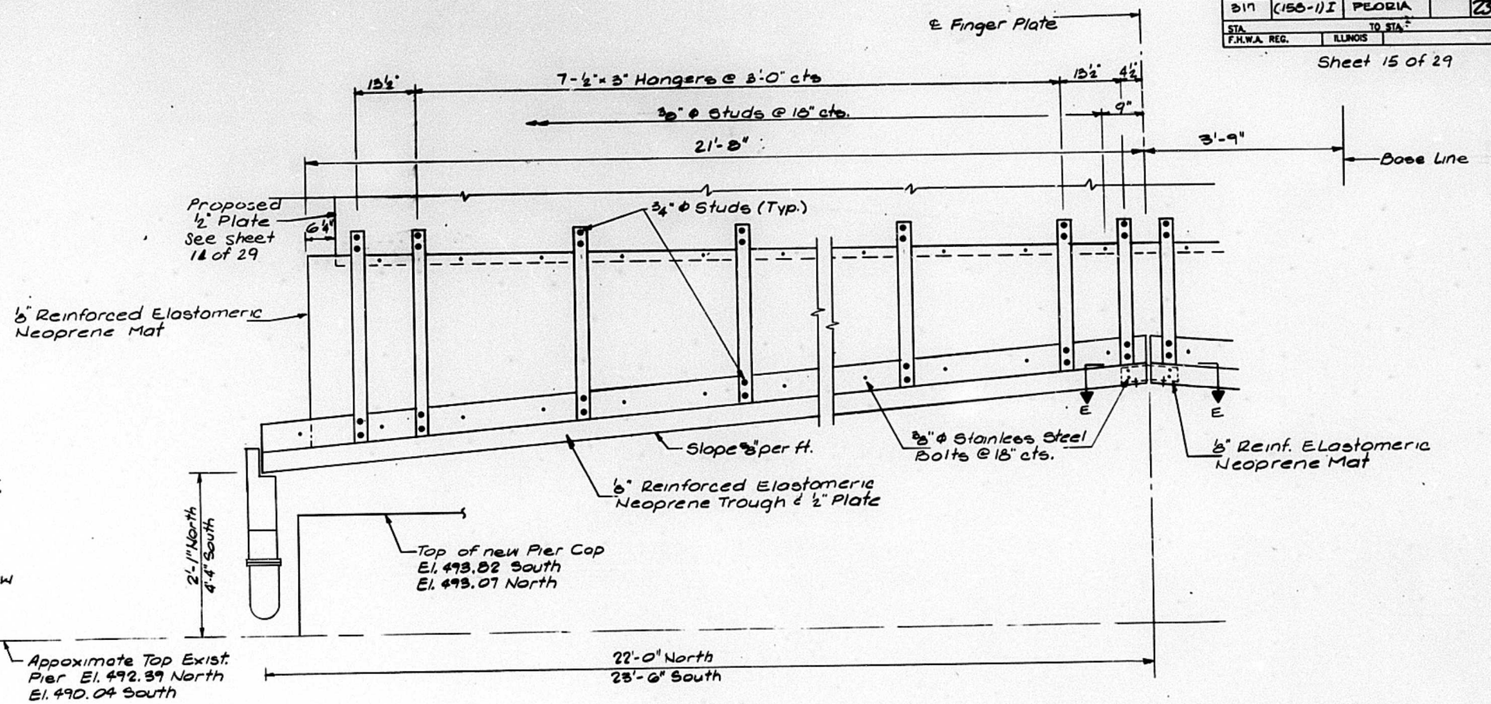


FLAME CUTTING DIAGRAM
One required PL - 1" x 20¾" x 42'-3½"

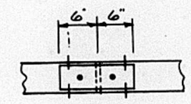
FINGER PLATE EXP. JOINT - PIER 4
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)I	PEORIA		231
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

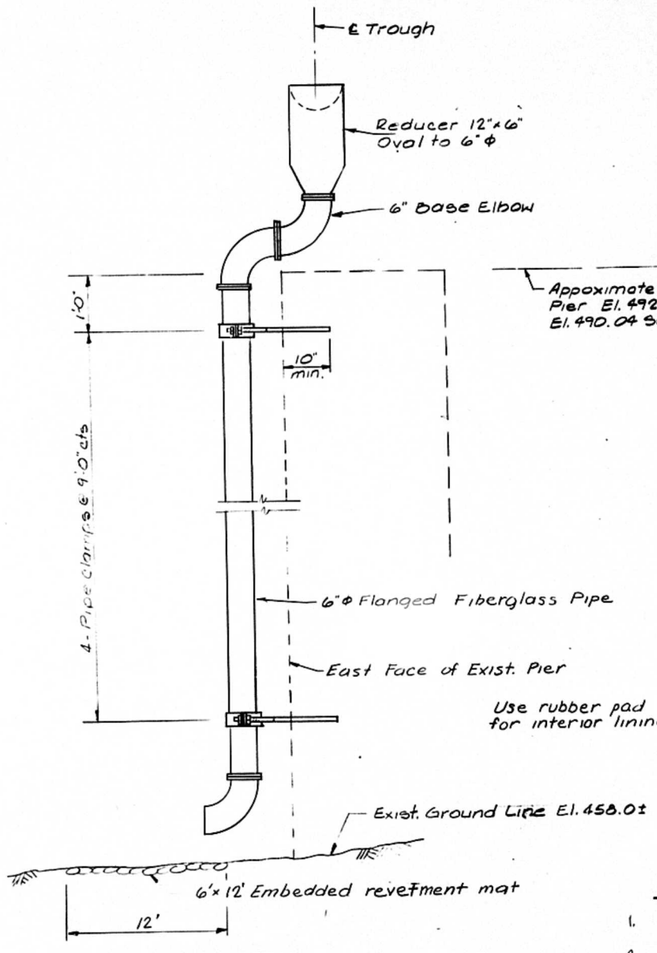
Sheet 15 of 29



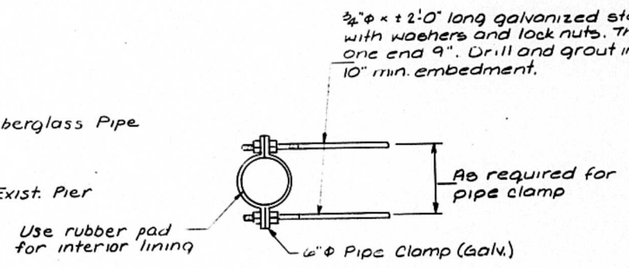
SECTION D-D



VIEW E-E



DRAIN DETAIL
(2 Required)



PIPE CLAMP

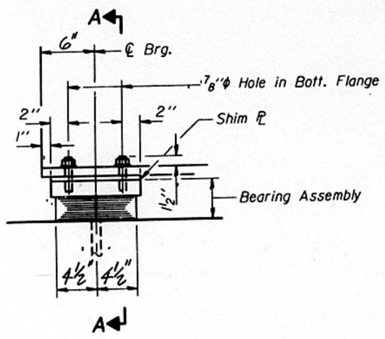
NOTES

1. Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
2. Bolts, washers and nuts shall conform to the requirements of ASTM 307.
3. All bolts, washers, nuts and pipe clamps shall be galvanized in accordance with AASHTO M232.
4. Cost of the piping and all parts including installation of the system shall be paid for at the unit bid price for Drainage System.
5. Fiberglass to have prewash as per MIL-P-15328.

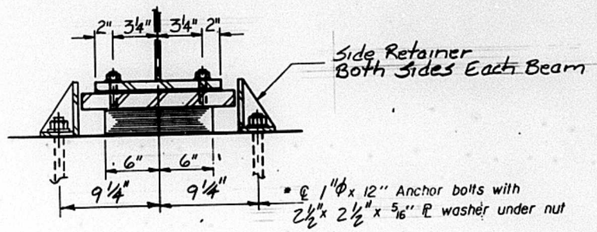
FINGER PLATE DETAILS
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)I	PEORIA		232
STA.		TO STA.		
F.A.P.U.A. REG.		ILLINOIS		

Sheet 16 of 29



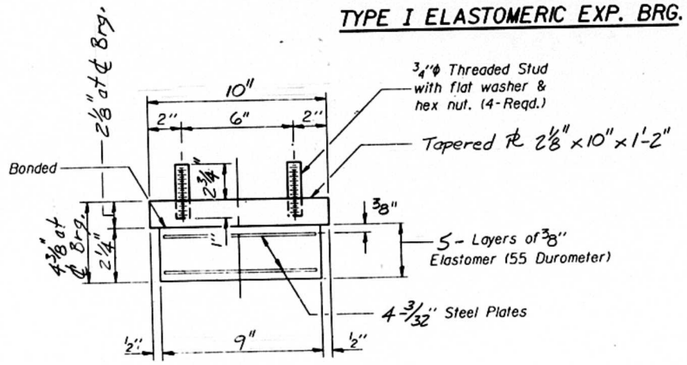
ELEVATION AT PIER 2 WEST



SECTION A-A

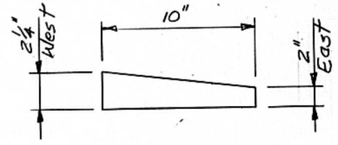
TYPE I ELASTOMERIC EXP. BRG.

* For Anchor Bolt Installation See Sheet 18 of 29

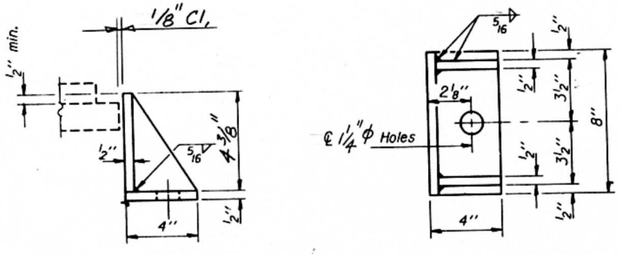


BEARING ASSEMBLY

Note: Shim plates shall not be placed under Bearing Assembly.



TAPERED TOP PL DETAIL

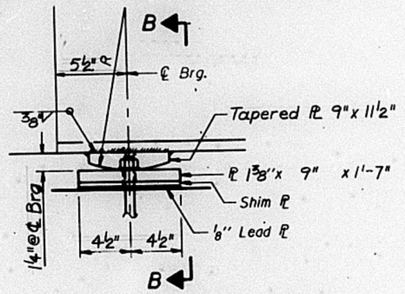


SIDE RETAINER

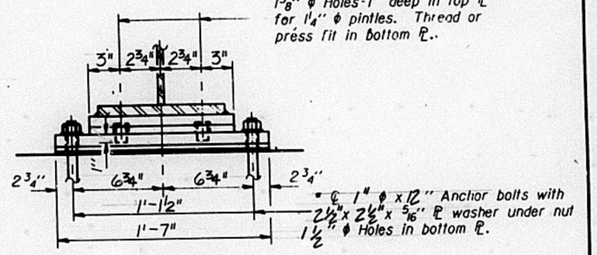
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.
Weight Included With Structural Steel

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly, Type I	Each	8

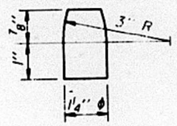


ELEVATION AT WEST ABUT.



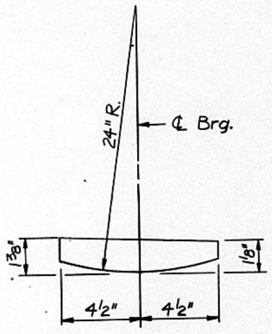
SECTION B-B

FIXED BEARING



PINTLE

Notes:
Anchor Bolts may be built into the masonry
For Anchor Bolt installation see Sheet 18 of 29

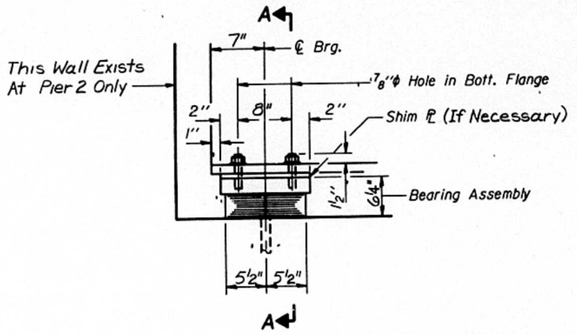


TOP PLATE DETAIL

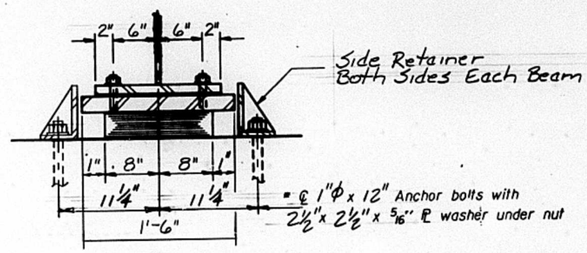
BEARING - SPAN 3
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)I	PEORIA		233
STA. F.H.W.A. REG.		TO STA. ILLINOIS		

Sheet 17 of 29



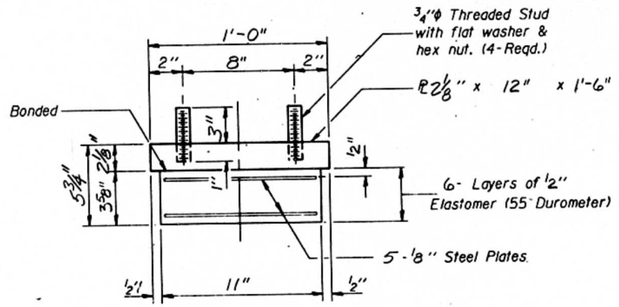
ELEVATION AT PIERS 2 EAST & 4 WEST



SECTION A-A

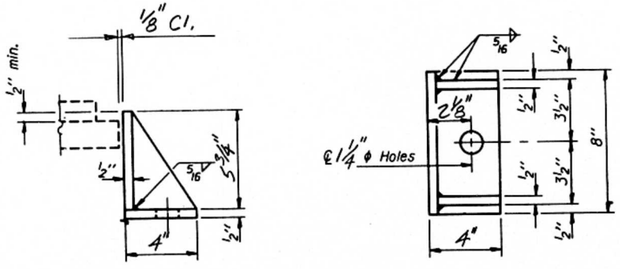
* For Anchor Bolt Installation See Sheet 18 Of 29

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

Note: Shim plates shall not be placed under Bearing Assembly.

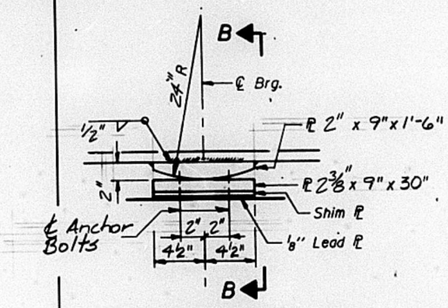


SIDE RETAINER

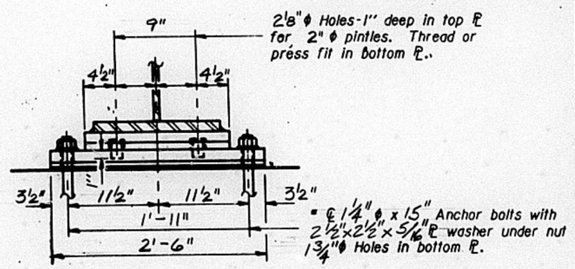
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.
Weight Included With Structural Steel

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly, Type I	Each	13

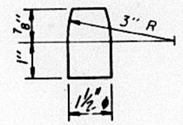


ELEVATION AT PIER 3



SECTION B-B

FIXED BEARING



PINTLE

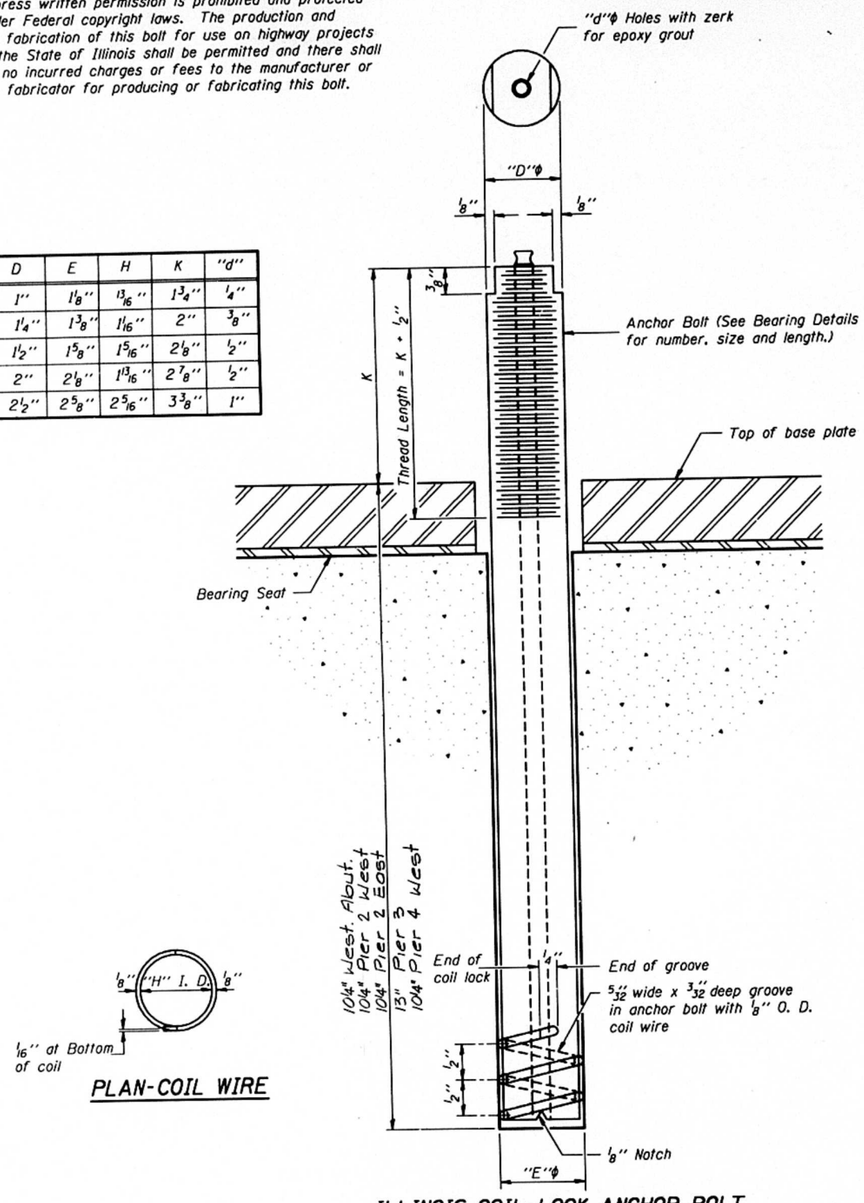
Notes:
Anchor Bolts May Be Built Into The Masonry
For Anchor Bolt Installation See Sheet 18 Of 29

BEARINGS SPANS 4 & 5
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I.
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		34
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 15 of 29

D	E	H	K	"d"
1"	1 1/8"	13/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT

PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system comforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place,the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

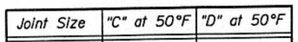
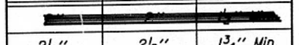
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

ANCHOR BOLTS FOR BEARINGS
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
E.S.L. F.A. 317	(15B-1)I	PEORIA		235
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 19 OF 29 SHEETS

Joint Size	"C" at 50°F	"D" at 50°F
		
$2\frac{1}{2}$"	$2\frac{1}{2}$"	$1\frac{3}{4}$" Min.
		

INSTALLATION NOTES

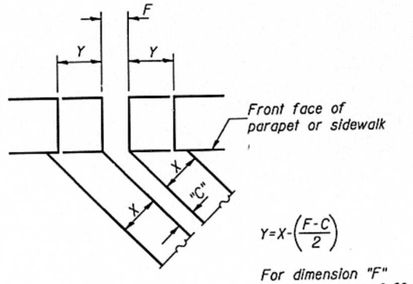
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

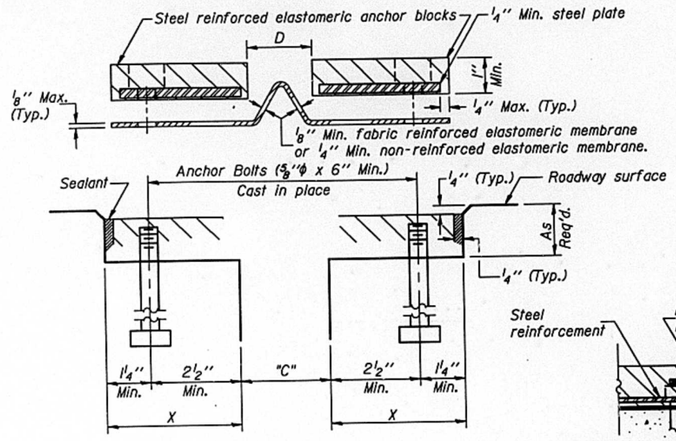
For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of $1\frac{1}{2}$" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



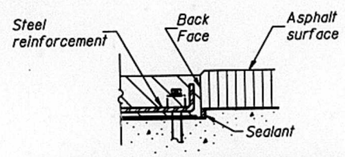
$Y = X - \left(\frac{F-C}{2}\right)$

For dimension "F" see sheet # 7 of 29

FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions.

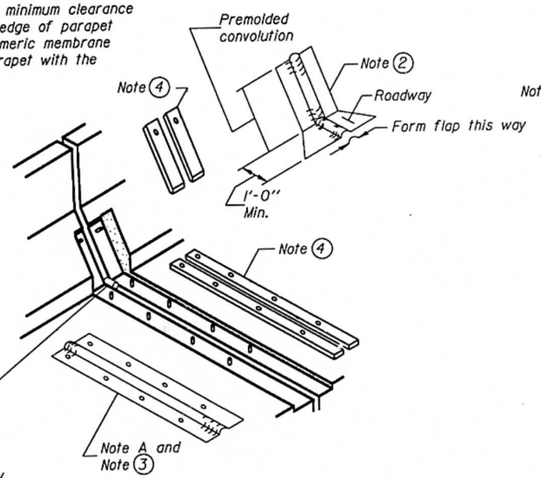
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

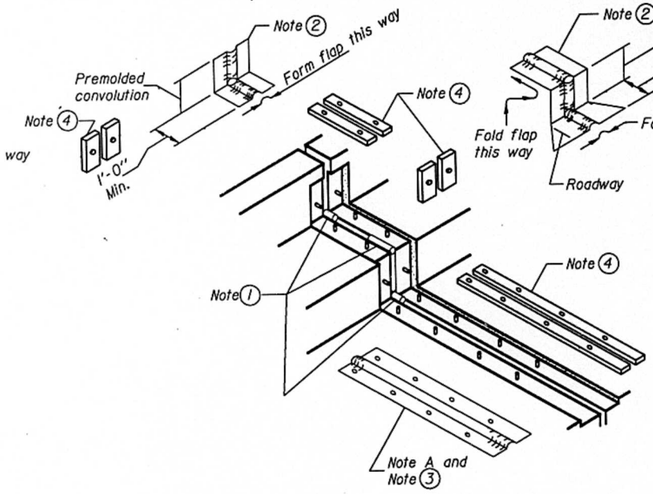
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

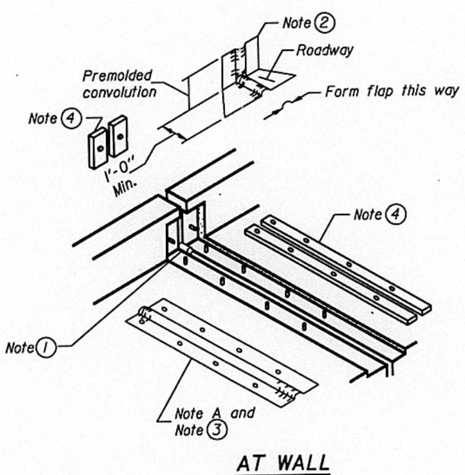
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



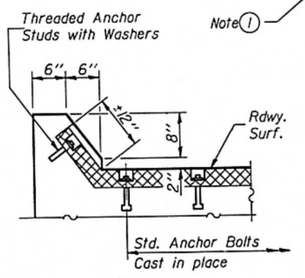
AT PARAPET



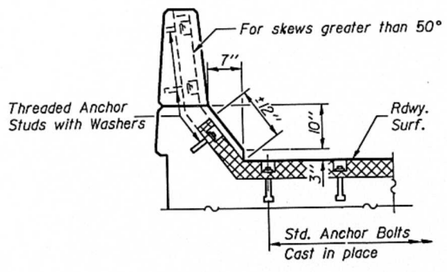
AT SIDEWALK OR MEDIAN



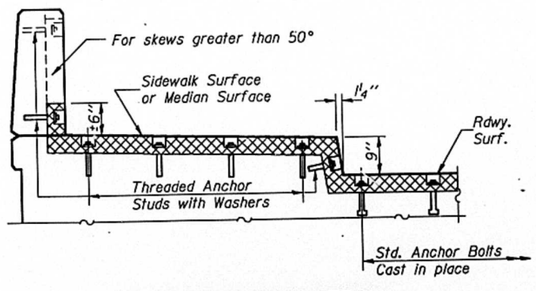
AT WALL



AT CURB

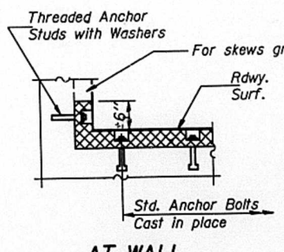


AT PARAPET



AT SIDEWALK OR MEDIAN

TYPICAL END TREATMENTS

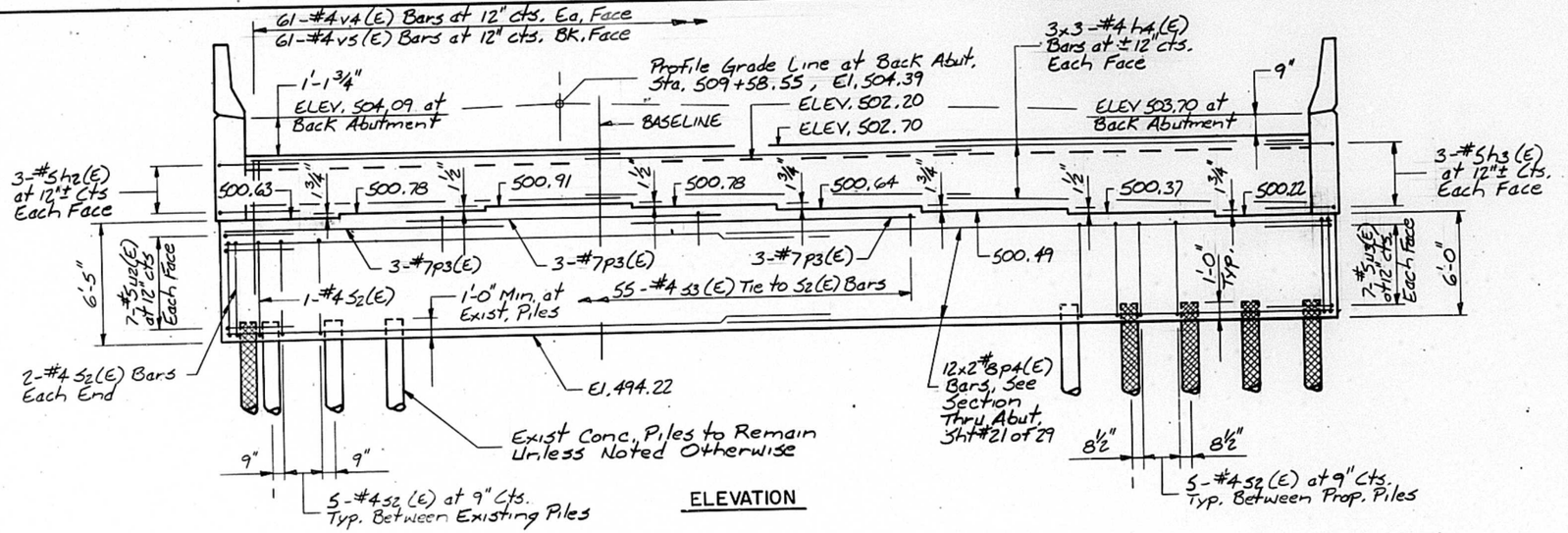


AT WALL

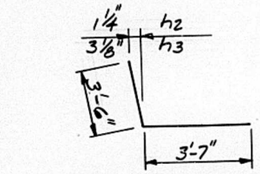
NEOPRENE EXP. JOINT - PIER 2
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		236
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS			

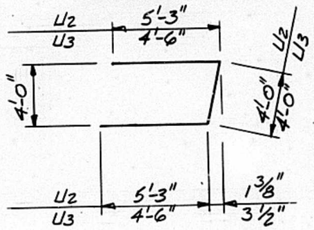
Sht. #20 of 29



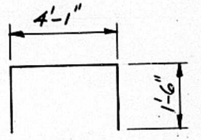
ELEVATION



BARS h2(E) & h3(E)



BARS u2(E) & u3(E)



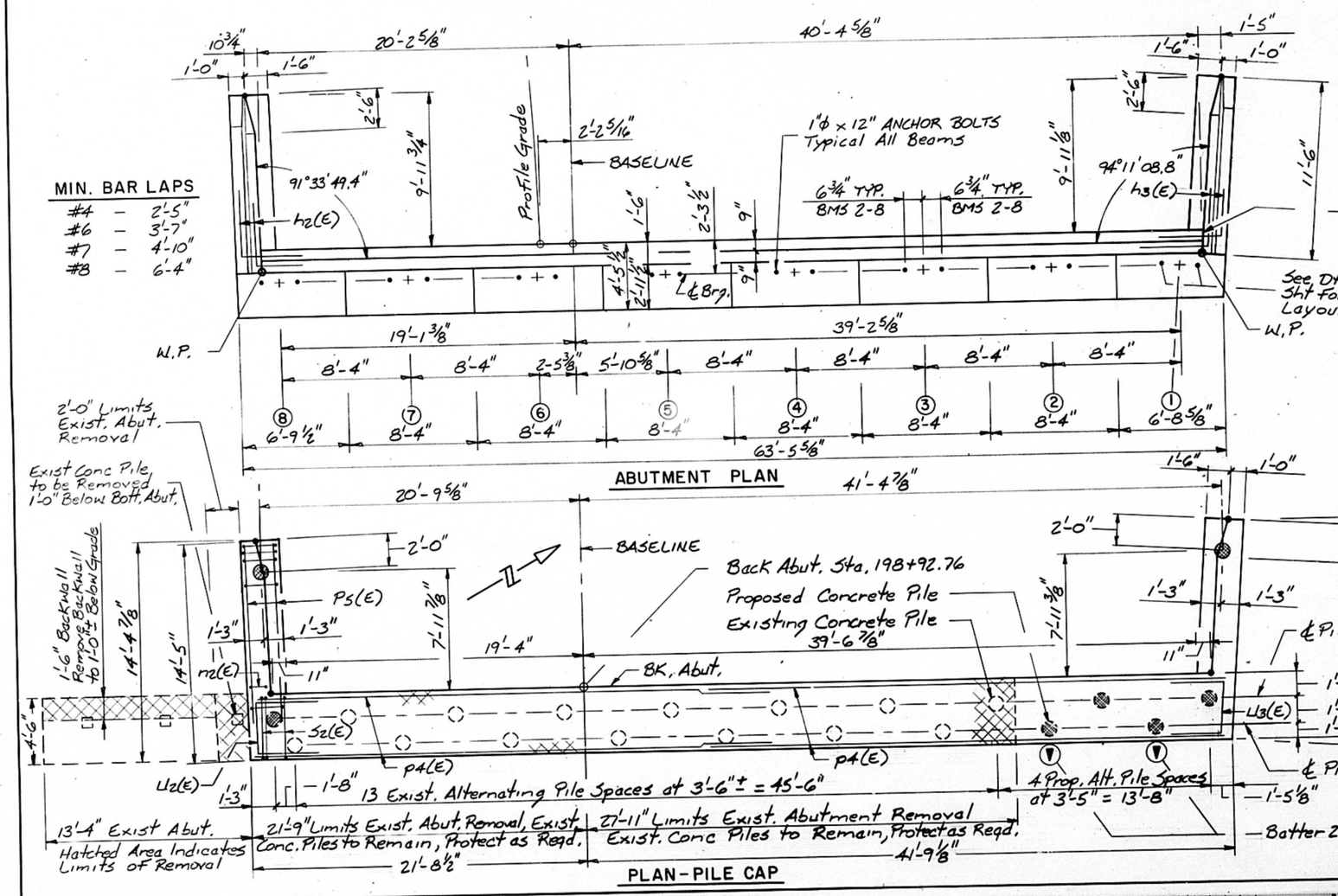
BAR s3(E)

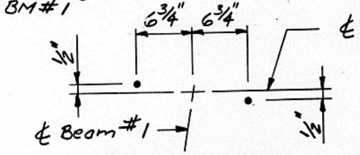
WEST ABUTMENT – BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h2(E)	6	#5	7'-1"	
h3(E)	6	#5	7'-1"	
h4(E)	18	#4	21'-10"	
h5(E)	26	#4	11'-3"	
h6(E)	18	#4	11'-3"	
n2(E)	18	#6	8'-9"	
n3(E)	12	#6	8'-1"	
p3(E)	9	#7	16'-7"	
p4(E)	24	#8	34'-9"	
p5(E)	12	#7	12'-6"	
s2(E)	90	#4	20'-3"	
s3(E)	58	#4	7'-1"	
s4(E)	24	#4	9'-5"	
u2(E)	7	#5	14'-6"	
u3(E)	7	#5	13'-0"	
v4(E)	61	#4	7'-0"	
v5(E)	61	#4	3'-0"	
v6(E)	18	#6	6'-2"	
v7(E)	24	#7	5'-10"	
v8(E)	6	#6	6'-0"	
STRUCTURE EXCAVATION		Cu Yd.	180	
CLASS X CONCRETE		Cu Yd.	88.6	
CONCRETE PILES		Lin. Ft.	192	
REINFORCEMENT BARS (EPOXY COATED)		Pounds	6500	
CONCRETE REMOVAL		Cu Yds	67.5	
TEST PILES CONCRETE		EACH	1	

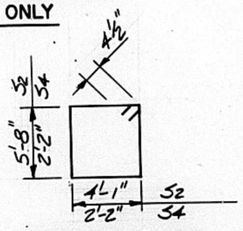
MIN. BAR LAPS

#4	2'-5"
#6	3'-7"
#7	4'-10"
#8	6'-4"





ANCHOR BOLT LAYOUT
BM # 1 ONLY



BARS s2(E) & s4(E)

PILE DATA

Type	Concrete
Capacity	45 Ton
Est. Length	32'
No. Reqd.	6
Plus 1 Test Pile	

NOTES

Space Reinforcement in Cap to miss Anchor Bolts.

Pour Steps Monolithically with Cap.

Reinforcement Bars Designated (E) Shall be Epoxy Coated.

Bars Indicated thus 8x2-#7 etc. indicates 8 Lines of Bars with 2 Lengths per Line.

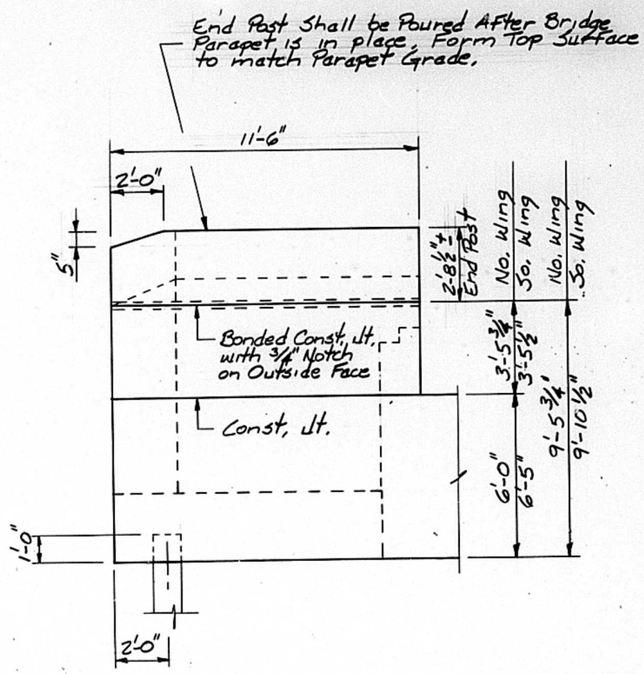
See Sht. # 21 of 29 for Abut. Details.

W.P. = Working Point

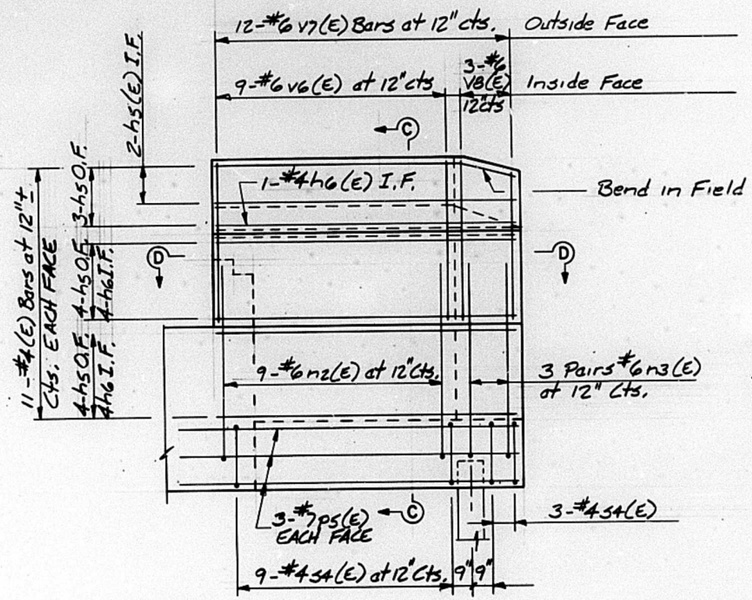
WEST ABUTMENT
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511+30.11
STRUCTURE NO. 090-0115

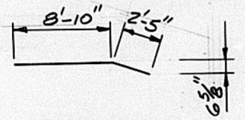
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		29
STA.		TO STA.		
F.H.W.A. REQ.		ILLINOIS		

Sht. # 21 of 29

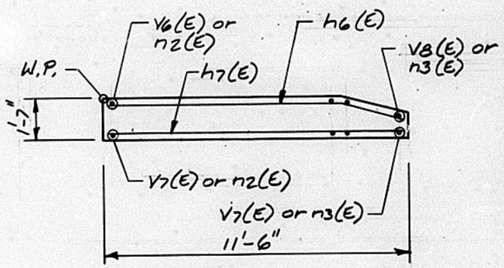


WING WALL ELEVATIONS — WEST ABUTMENT

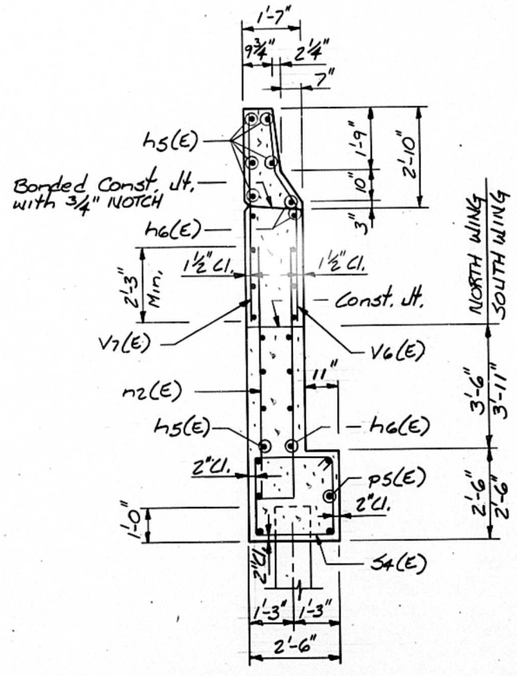




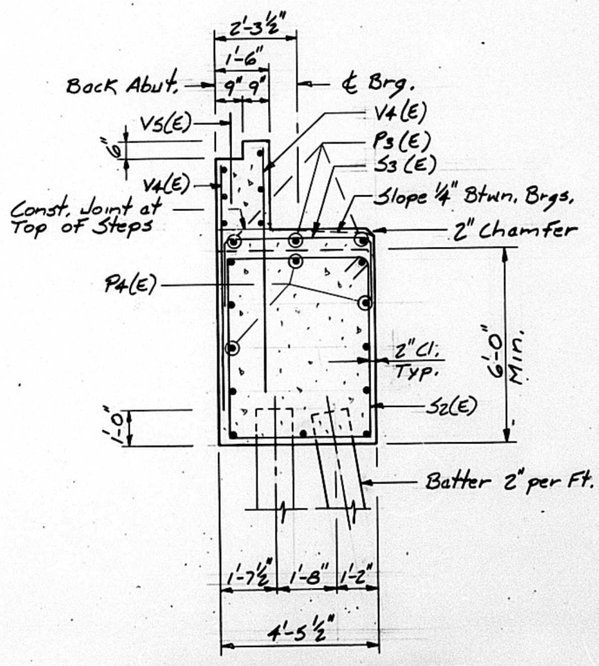
BAR h6(E)



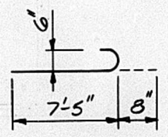
SECTION D-D



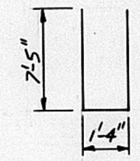
SECTION C-C



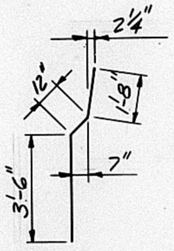
SECTION THRU WEST ABUTMENT



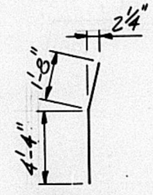
BAR n3 (E)



BAR n2 (E)



BAR V6(E)



BAR V8(E)

ABUTMENT DETAILS
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		238
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sht. # 22 of 29

MINIMUM BAR LAPS:

#5	3'-0"
#6	3'-7"
#10	5'-10"

EPOXY GROUTED REBAR NOTES:

① HORIZONTAL BARS:
EPOXY GROUT #5 BARS IN 7/8"ø x9" MINIMUM DRILLED HOLES. (USE GROUT APPROVED BY THE DEPARTMENT OR EPOXY GROUT IN ACCORDANCE WITH BSP-11 (SEE SPECIAL PROVISIONS). THE METHOD OF GROUT APPLICATION SHALL BE APPROVED BY THE ENGINEER).

② VERTICAL BARS:
EPOXY GROUT #5 BARS IN 7/8"ø x9" MINIMUM DRILLED HOLES. SEE SPECIAL PROVISIONS.

WEST FACE 3'-10" EAST FACE
2" 1'-5" 2'-1" 2"
h22(E) or h24(E)
h23(E) or h25(E)
ELEV. 499.54 To 498.96
S23(E)
ELEV. 497.64 To 497.20
V23(E) 495.24
S22(E)
V22(E)
1'-11½" To 2'-4¾"
3'-8⅜" To 4'-3⅝"
9" Min.
7" Typ.
Exist. 2" Chamfer
Bonded Const. Jt. in Accordance w/ Art. 504.13(a)(2) of the Std. Specs (Typ.)

SECTION A-A

W. FACE 4'-0" E. FACE
2" 1'-5" 2'-3" 2"
498.96
S26(E)
h24(E)
h25(E)
S25(E)
495.24
S27(E)
2"Cl.
2-#5 h26(E) as Shown
V26(E)
h26(E)
V25(E)
4'-0"
7"
7"
16-#5 h26(E) Bars at 12"Cts. Each Face
479.3± Match Exist.
U25(E)
3'-6"
2"Cl.
h28(E)
2-#5 h28(E) as Shown
V24(E)
1'-11"
5'-2"
1'-11"
7'-2"
h27(E)
20"
n22(E)
464.52±
t22
3"Cl.
3'-0"
1-#6 W22 Eo. End
3-#6 W22 at 11½" Cts. (Typ.)
8"
8"
1'-3"
3'-3"
3'-3"
1'-3"
9'-0"

SECTION B-B
PIER EXTENSION

PILE DATA

Type	Concrete
Capacity	35 Ton
Est. Length	15'
No. Reqd.	8
Plus 1 Test Pile	

10'-7" 28'-1" 22'-3½"
1"ø x 12" Anchor Bolts at E. Brg
1"ø x 12" Anchor Bolts at W. Brg.
12'-8½"
BASELINE
6¼"
9'-0" 9'-0" 9'-0" 9'-0" 9'-0" 9'-0" 9'-0" 9'-0" 8'-3½"
7-8¾"
3'-11¼" 5'-0¼"
℄ Pier
90°
℄ Pier Sta. 199+44.09
11¼" Typ.
9¼" Typ.
℄ E. Brg.
℄ W. Brg.
4'-0" 2'-0" 2'-0" 7½" 1'-2½"
5'-10½" 6'-1" 8'-4" 8'-4" 8'-4" 8'-4" 8'-4" 2'-5⅜" 8'-4" 8'-4" 7'-4"
4'-10" 8'-4" 8'-4" 8'-4" 8'-4" 8'-4" 8'-4" 8'-4" 8'-4"
1'-8½" 10'-0½"

TOP PLAN

8-#5 h24(E) Bars West Brg. Seat See SECTION B-B
4-#5 h25(E) Bars East Brg. Seat See SECTION B-B
8x2-#5 h22(E) West Brg. Seat See SECTION A-A
4x2-#5 h23(E) Bars E. Brg Seat (SECTION A-A)
4-#6 u22(E) Bars Lap h24(E) Bars
2-#6 u23(E) Bars Lap h25(E) Bars
16-#5 s24(E) Bars at 12"Cts. Lap h26(E) Bars
½" Crown
2'-7"
498.96 499.05 499.17 499.31 499.45 499.54 499.42 499.26
497.05 497.20 497.34 497.50 497.64 497.52 497.36
1¾" 1⅝" 1⅝" 1⅝" 1⅝" 1½" 1⅛"
3'-5" Min Lap
11-#5 s27(E) at 12"Cts.
11-#5 s26(E) at 12"Cts. West Brg Seat
11-#5 s25(E) at 12"Cts. East Brg Seat
Bonded Const. Jt.
11-#10 v26(E) at 12" Cts Each Face
11-#10 v25(E) at 12"Cts Each Face
495.24
NOTE ②
51-#5 v23(E) Bars at 12" cts.
51 Pairs #5 s23(E) Bars at 12"cts.
SEE SECTION A-A
NOTE ②
51-#5 v22(E) Bars at 12" cts.
51 Pairs #5 s22(E) Bars at 12" cts.
SEE SECTION A-A
2-#6 u22(E) Lap h23(E)
2"Min. Formed Concrete Repair Slope to Drain ¼"/Ft. See Spec. Provisions
15-#5 h29(E) Bars at 12"± Cts. Eo. Side of ℄ Pier See Sec C-C and NOTE ①
14-#5 h29(E) Bars at 12"Cts. Eo. Side of ℄ Pier See Sec D-D and NOTE ①
14- #5 u25(E) 12"Cts.
10-#11 v24(E) 12"Cts. Each Face
10-#11 n22(E) 12"Cts Each Face
12-#8 h28(E) 12"Cts. Each Face
15-#5 s28(E) Bars
3-#8 h27(E) E.F.
4-#11 v27(E) 12"cts E.F.
2'-7" Concrete Removal Limits
9" (Typ.)
4⅜"
3'-3"
8⅜"
12'-9⅝"
3-#5 V23(E) Bars Eo. Face NOTE ②
3'-0" Exist. Ftg.
W22
Exist. Conc. Pile
Prop. Conc. Pile
4-#7 t22 at 10"Cts. (Typ.)
8¼" 8¼"
1'-3" 3'-10½" 3'-10½" 1'-3" 3'-0"
Indicates Direction of 2:12 Batter
9'-0" 1'-3" 3'-3" 3'-3" 1'-3"
10'-3"

FOOTING PLAN

℄ Piles
℄ Piles, ℄ Pier
℄ Piles

NOTES:

Space Reinf. in Cap to Miss Anchor Bolts.
All Edges Shall have Std ¾" Chamfers Except as Noted
Reinforcement Bars Designated (E) Shall be Epoxy Coated.
Bars Designated Thus 3x2#7 ETC. Indicates 3 Lines of Bars with 2 Lengths per Line.

ELEVATION
(LOOKING AT WEST FACE)

2-#10 v26(E) as Shown
h26(E)
V26(E)
2"Cl.
1'-0"
6"
1'-0"
4'-0"
S24(E)
℄ Pier
1'-0"
Epoxy Grouted Rebar Location

SECTION C-C

3-#11 v24(E) as Shown
2'-7"
2"Cl.
V24(E)
V27(E)
5'-2"
S28(E)
℄ Pier
Prop. Ftg.
Exist. Ftg.
3'-3"
h28(E)
12'-9⅝"
8⅜"
13'-6"
Exist. Pier
¾" Chamfer (Typ.)

SECTION D-D

C D E

C, D & E DIMENSIONS

BAR	C	D	E
V22(E)	7"	2'-4"	5"
V23(E)	7"	2'-10"	5"
n22(E)	1'-7"	9'-7"	1'-2¾"
h29(E)	7"	2'-10"	5"

Existing Reinforcement Extending into the Removal Area Shall be Cut, Cleaned, Straightened and Incorporated into the New Construction. Cost Incidental.

WEST FACE 1'-5" 2'-3" EAST FACE
Varies 9¾" To 4'-3⅜"
2"
1'-5¼"±
El. 495.24

SECTION E-E

A & B DIMENSIONS

BAR	A	B
S22(E)	1'-9"	1'-7"
S23(E)	1'-1"	2'-10"
S24(E)	3'-8"	3'-0"
S25(E)	1'-11"	4'-1"
S26(E)	1'-1"	6'-0"
S27(E)	3'-6"	1'-8"
S28(E)	4'-10"	3'-0"
U22(E)	0'-11"	3'-7"
U23(E)	1'-9"	3'-7"
U24(E)	1'-8"	3'-5"
U25(E)	4'-8"	1'-6"

Hatched Area Indicates Limits of Concrete Removal

499.56 499.28 499.01 498.70 498.38 498.10 497.54 496.68
497.57 497.31 497.02 496.71 496.44 496.05 495.24 494.41
4'-8"
BASELINE
6'-6" 8'-5½" 8'-5½" 8'-5½" 8'-5½" 8'-5½" 8'-5½" 5'-10"
ELEV. 495.24 REMOVAL LINE

EXIST. PIER CAP ELEVATION CONCRETE REMOVAL (LOOKING AT WEST FACE)

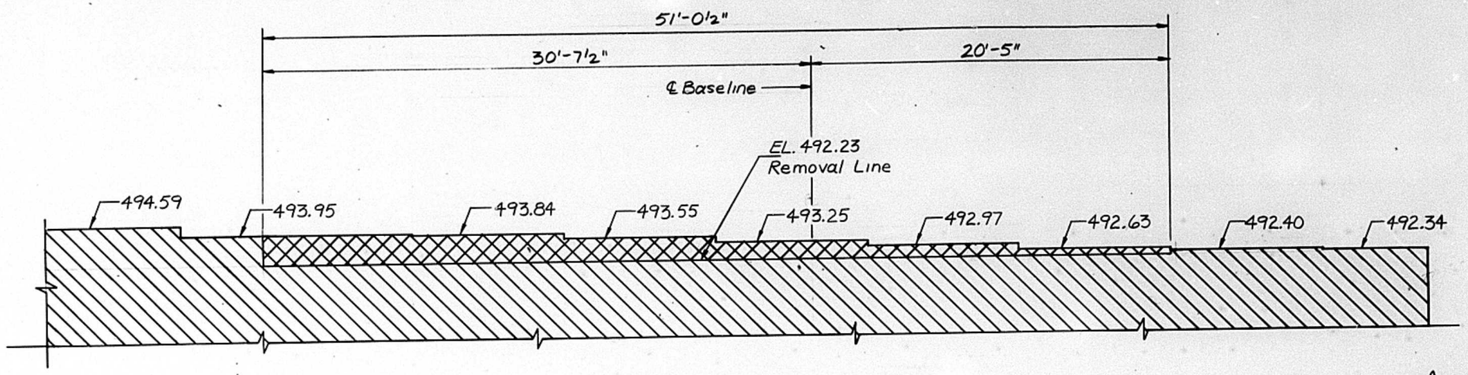
BILL OF MATERIALS PIER 2

BAR	NO	SIZE	LENGTH	SHAPE
h22 (E)	16	#5	26'-1"	
h23 (E)	8	#5	23'-9"	
h24 (E)	8	#5	15'-3"	
h25 (E)	4	#5	20'-2"	
h26 (E)	34	#5	10'-1"	
h27 (E)	6	#8	9'-2"	
h28 (E)	26	#8	12'-7"	
h29 (E)	58	#5	3'-5"	
n22 (E)	20	#11	11'-2"	
s22 (E)	102	#5	4'-11"	
s23 (E)	102	#5	6'-9"	
s24 (E)	16	#5	9'-8"	
s25 (E)	11	#5	10'-1"	
s26 (E)	11	#5	13'-1"	
s27 (E)	11	#5	6'-10"	
s28 (E)	15	#5	10'-10"	
T22	10	#7	8'-8"	
U22 (E)	8	#6	8'-1"	
U23 (E)	2	#6	8'-11"	
U24 (E)	2	#6	8'-10"	
U25 (E)	14	#5	7'-8"	
V22 (E)	51	#5	2'-11"	
V23 (E)	57	#5	3'-5"	
V24 (E)	23	#11	14'-7"	
V25 (E)	22	#10	11'-8"	
V26 (E)	24	#10	15'-7"	
V27 (E)	8	#11	11'-5"	
W22	8	#6	9'-11"	
FORMED CONC. REPAIR =< 5"			Sq. Ft.	18
STRUCTURE EXCAVATION			Cu Yds	80
CLASS X CONCRETE			Cu Yds	93.5
REINF BARS, EPOXY CTD.			Pound	11110
REINFORCEMENT BARS			Pound	300
CONCRETE PILES			Lin Ft.	120
TEST PILES CONCRETE			Each	1
CONCRETE REMOVAL			Cu Yds	20.8

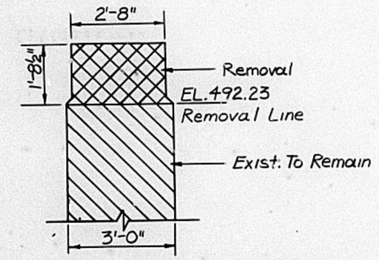
PIER 2
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)I	PEORIA		239
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

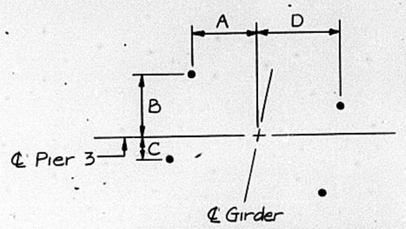
Sheet 23 of 29



ELEVATION REMOVAL

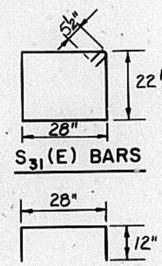


EXISTING PIER 3 SECTION



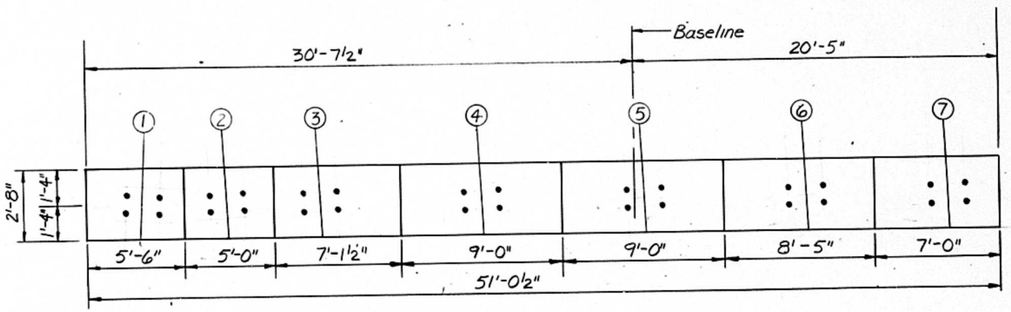
ANCHOR BOLT LAYOUT

	A	B	C	D
GIRDER #1	11½"	2"	2"	11½"

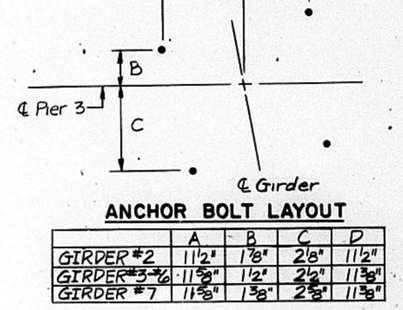


S_{31}(E) BARS

S_{32}(E) BARS

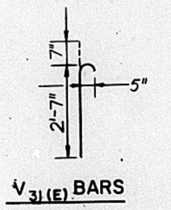


PLAN



ANCHOR BOLT LAYOUT

	A	B	C	D
GIRDER #2	11½"	1'8"	2'8"	11½"
GIRDER #3 & 6	11⅝"	1'2"	2½"	11⅜"
GIRDER #7	11⅝"	1⅜"	2⅝"	11⅜"

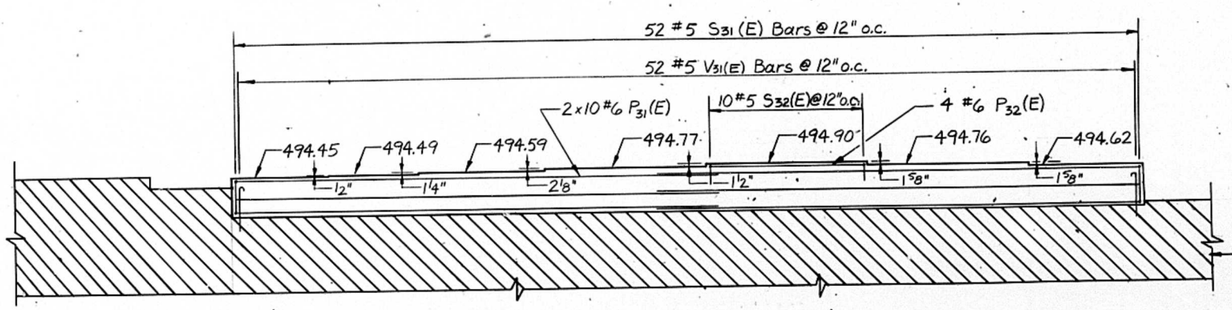


V_{31}(E) BARS

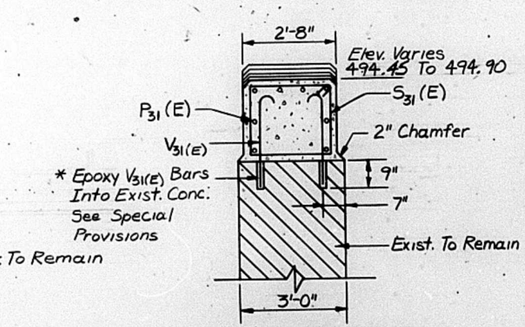
BAR	NO.	SIZE	LENGTH	SHAPE
P_{31}(E)	16	#6	27'-6"	
P_{32}(E)	4	#6	8'-8"	
S_{31}(E)	52	#5	9'-4"	
S_{32}(E)	10	#5	4'-4"	
V_{31}(E)	52	#5	3'-2"	
Concrete Removal		Cu.Yd.	5.7	
Class X Concrete		Cu.Yd.	12.3	
Reinforcement Bars Epoxy Coated		Pounds	1440	

PIER 3
BILL OF MATERIALS

MINIMUM LAP LENGTH
#6 Lap = 3'-7"



ELEVATION
Looking East



NEW PIER 3 SECTION

*Epoxy Grout V_{31}(E) Bars In 7/8"ø x 9" Minimum Drilled Holes. See Special Provisions.

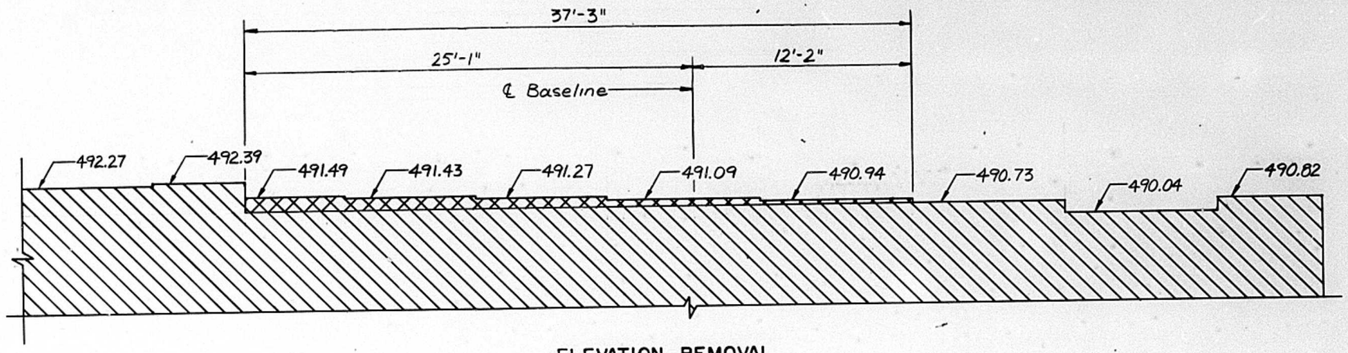
NOTES:

① Existing Reinforcement Extending Into The Removal Area Shall Be Cut, Cleaned, Straightened And Incorporated Into The New Construction. Cost Incidental.
② Space Reinf. In Cap To Miss Anchor Bolts.
③ All Edges Shall Have Std. ¾" Chamfers Except As Noted.
④ Reinf. Bars Designated (E) Shall Be Epoxy Coated.
⑤ Bars Designated Thus 3x2#7 ETC. Indicates 3 Lines Of Bars With 2 Lengths Per Line.

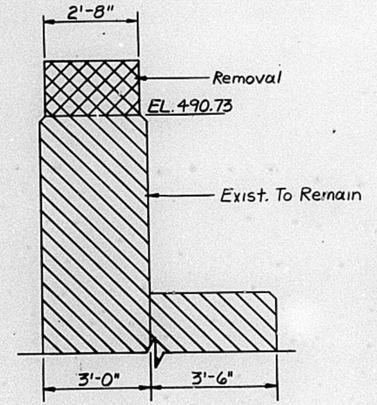
PIER 3
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)I	PEORIA		240
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

Sheet 24 of 29



ELEVATION REMOVAL



EXISTING PIER 4 SECTION

NOTES:

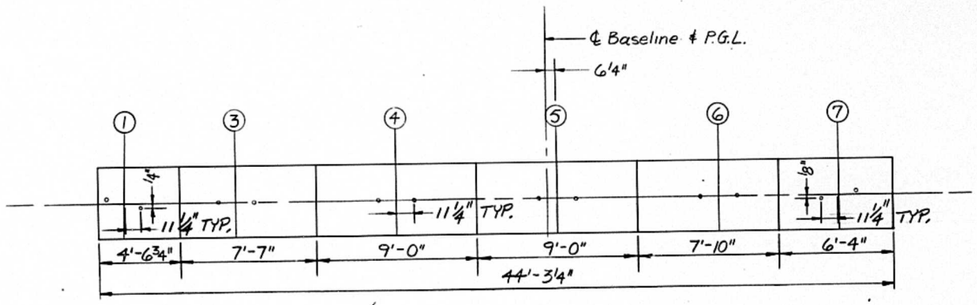
① Existing Reinforcement Extending Into The Removal Area Shall Be Cut, Cleaned, Straightened And Incorporated Into The New Construction. Cost Incidental.

② Space Reinf. In Cap To Miss Anchor Bolts.

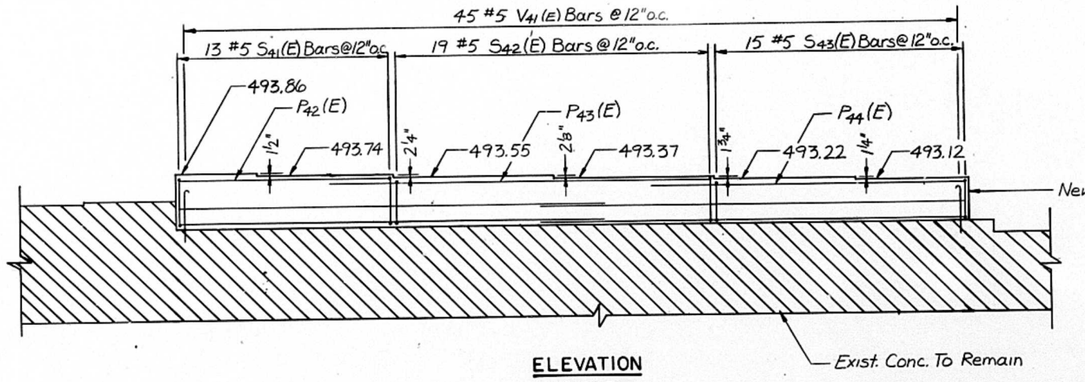
③ All Edges Shall Have Std. ¾" Chamfers Except As Noted.

④ Reinf. Bars Designated (E) Shall Be Epoxy Coated.

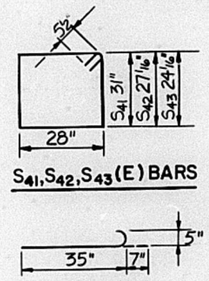
⑤ Bars Designated Thus 3x2 #7 ETC. Indicates 3 Lines Of Bars With 2 Lengths Per Line.



PLAN

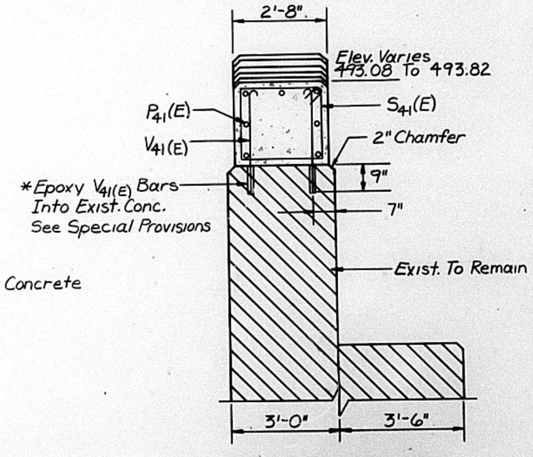


ELEVATION
Looking East



S_{41}, S_{42}, S_{43}(E) BARS

V_{41}(E) BARS



NEW PIER 4 SECTION
Looking North

*Epoxy Grout V_{41}(E) Bars In ⅞"ϕ x 9" Drilled Holes. See Special Provisions.

BAR	NO.	SIZE	LENGTH	SHAPE
P_{41}(E)	8	#6	24'-4"	
P_{42}(E)	3	#6	11'-9"	
P_{43}(E)	3	#6	22'-0"	
P_{44}(E)	3	#6	18'-2"	
S_{41}(E)	13	#5	10'-9"	
S_{42}(E)	19	#5	10'-1"	
S_{43}(E)	15	#5	9'-7"	
V_{41}(E)	45	#5	3'-6"	
Concrete Removal				7.5
Class X Concrete				11.8
Reinforcement Bars Epoxy Coated				1190

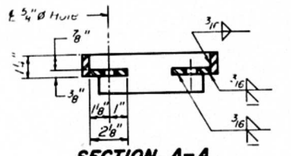
PIER 4
BILL OF MATERIALS

MINIMUM LAP LENGTHS
#6 3'-7"

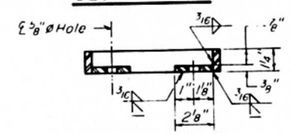
PIER 4
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		24
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

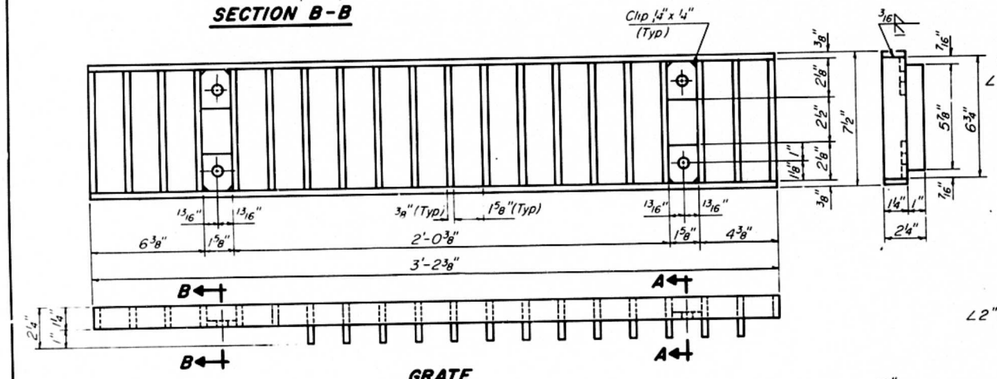
Sheet 25 of 29



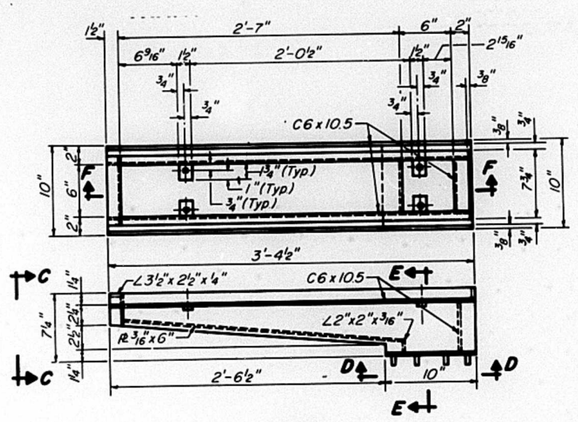
SECTION A-A



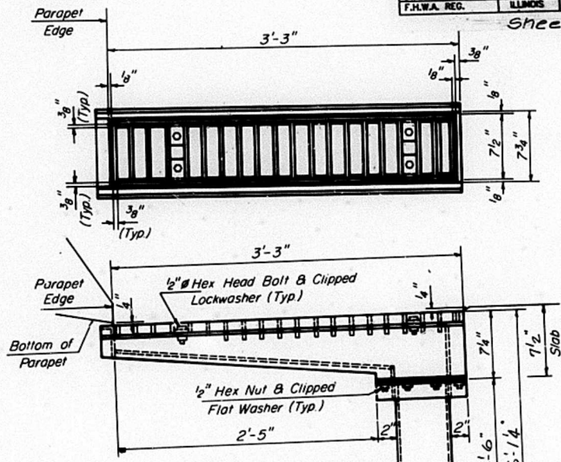
SECTION B-B



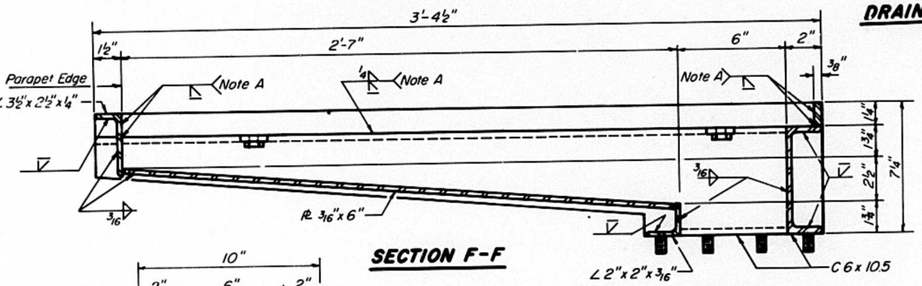
GRATE



FRAME

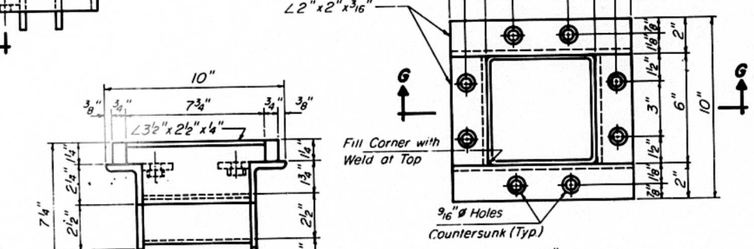


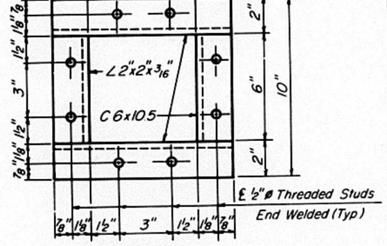
DRAINAGE SCUPPER



SECTION F-F

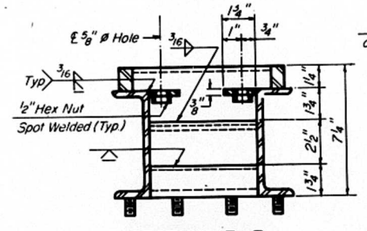
Note A: Surface of welds shall be recessed 1/16" Max. or placed flush with inside face of bars to provide clearance for Grate.



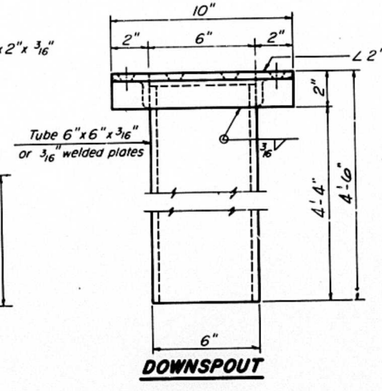


VIEW D-D

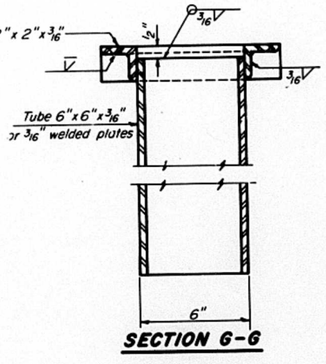
VIEW C-C



SECTION E-E



DOWNSPOUT



SECTION G-G

Notes

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B, or A-501 Structural Steel Tubing.

All other shapes, plates and bars shall conform to the requirements of AASHTO M 183.

Bolts, studs, washers and nuts shall conform to the requirements of A.S.T.M. A-307.

The Grate, Frame, and Downspout shall be galvanized after shop fabrication in accordance with AASHTO M-111 & A.S.T.M. A-385

All bolts, washers and nuts shall be galvanized in accordance with A.A.S.H.T.O. M 232.

Cost of the Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper shall be paid for at the unit bid price for "DRAINAGE SCUPPERS".

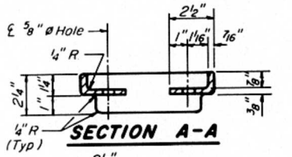
BILL OF MATERIAL

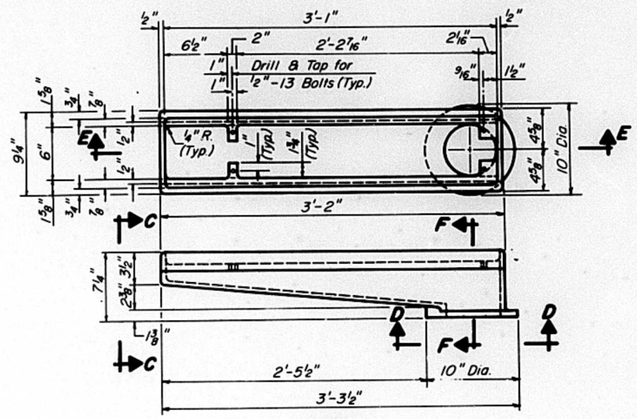
ITEM	UNIT	TOTAL
Drainage Scupper	Each	3

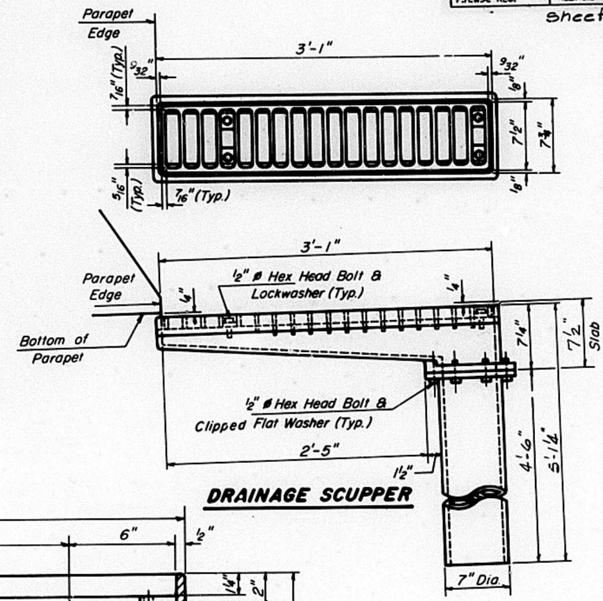
STEEL DRAINAGE SCUPPER
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

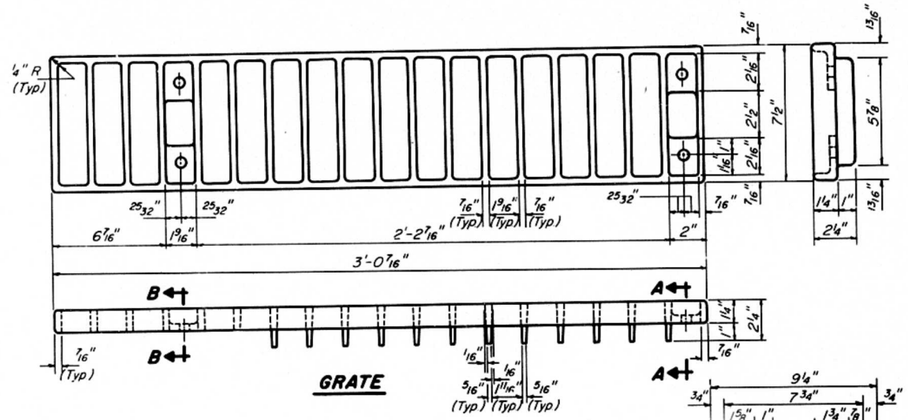
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		242
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

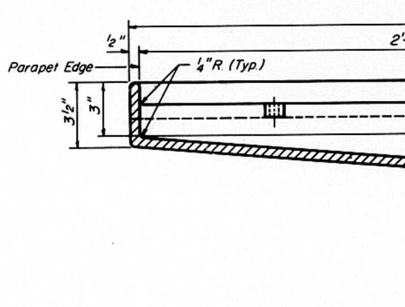
Sheet 26 of 29

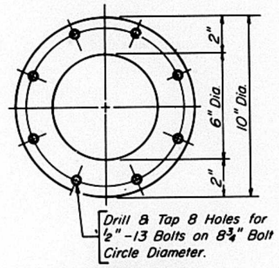


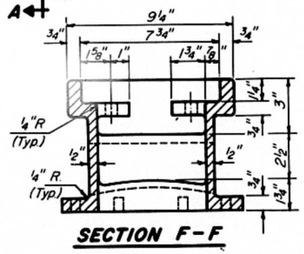


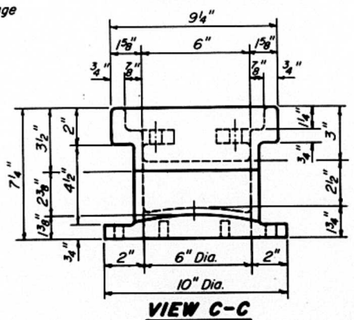


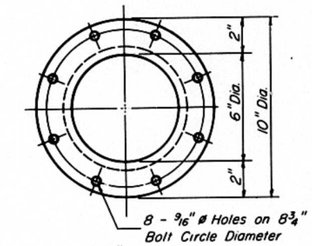


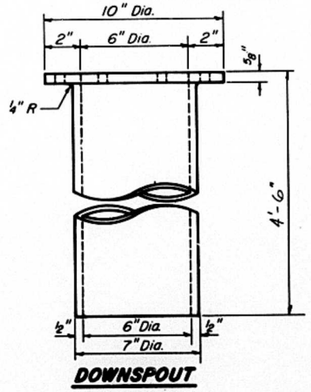












Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M-105, Class 30.

Bolts and washers shall conform to the requirements of A.S.T.M.: A-307.

All bolts and washers shall be galvanized in accordance with A.A.S.H.T.O.: M-232.

As an alternate bolts and washers may be stainless steel conforming to the requirements of A.S.T.M.: A-193. Type 304.

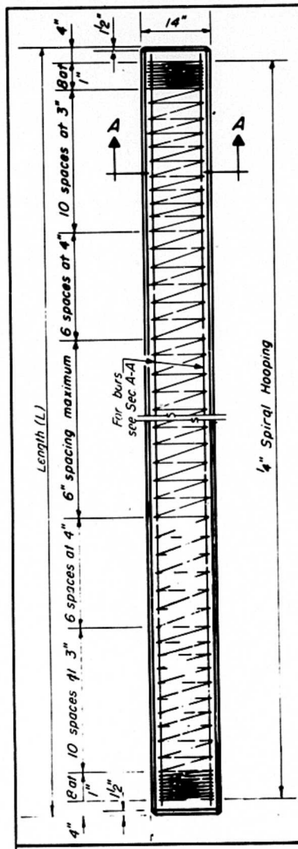
Cost of the Grate, Frame, Downspout, bolts and washers including complete installation of Scupper shall be paid for at the unit bid price for "DRAINAGE SCUPPERS".

The Contractor may use at his option steel drainage scuppers or cast iron drainage scuppers.

ALT.-CAST IRON DRAINAGE SCUPPER
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

TAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		243
STA.		TO STA.		
F.A.I.M.A. REG.		ILLINOIS		

Sheet 27 of 29



4-#9 bars
1 1/2" Chamfer
2" cl to Main Steel
14"
14"

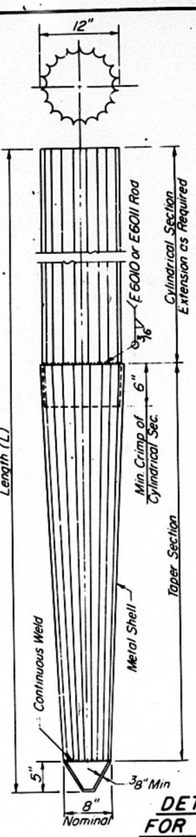
SECTION A-A
FOR FILE UNDER 45' LONG

2" cl to Main Steel
1 1/2" Chamfer
8-#8 bars
14"
14"

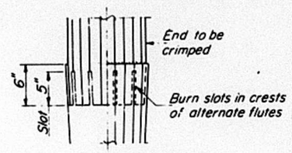
SECTION A-A
FOR PILES 45' OR MORE

Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end. For Piles longer than 45' use three slings placed at a distance of 0.12 L from each end and at mid point of pile.

DETAIL OF PRECAST CONCRETE PILES

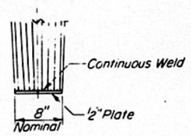


DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



FIELD CRIMP DETAIL

Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.

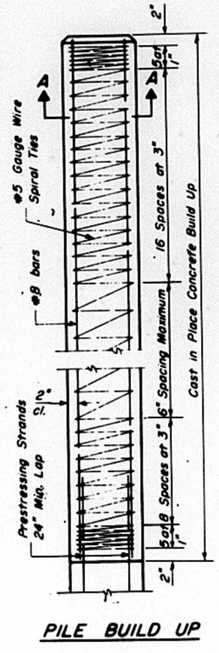


OPTIONAL FLAT END

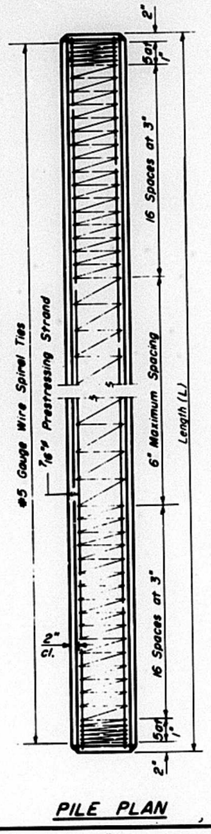
ALLOWABLE TAPER SECTIONS

10' Length - Taper 1" in 2'-6"
17' Length - Taper 1" in 4'-0"
25' Length - Taper 1" in 7'-0"
30' Length - Taper 1" in 7'-0"

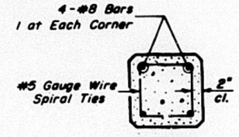
NOTE:
The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The shell shall be in accordance with Article 710.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 psi



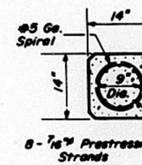
PILE BUILD UP



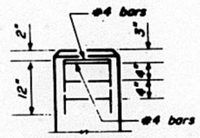
PILE PLAN



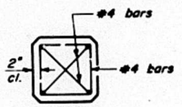
SECTION A-A



SECTION THRU PILE



ELEVATION
(End Reinforcement)



PLAN
(End Reinforcement)

DESIGN STRESSES

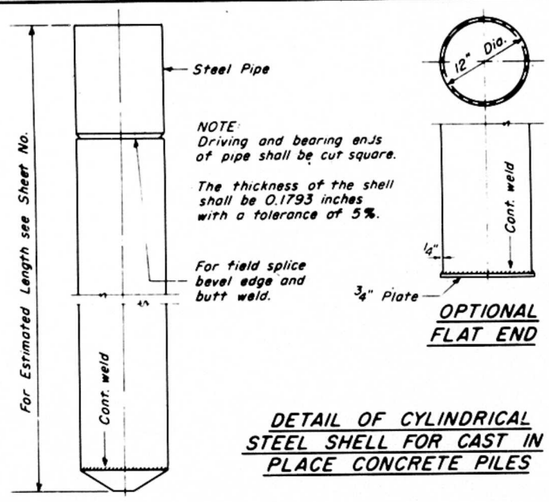
f'c' = 5,000 psi.
f'ci' = 4,000 psi.
fs' = 270,000 psi. (31,000 lbs.-7/16"ϕ or 41,300 lbs.-1/2"ϕ)
fsi' = 189,000 psi. (21,700 lbs.-7/16"ϕ or 28,900 lbs.-1/2"ϕ)

NOTES

Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.115 sq.in. or the equivalent 6-1/2"ϕ strands with a cross-sectional area of 0.153 sq.in. may be used.

For Pile lengths up to 65', use two slings placed at a distance of 0.21 L * from each end. For Piles longer than 65', use three slings placed at a distance of 0.12 L * from each end and at mid-point of pile. * L = Over all length of pile to be handled.

PRECAST PRESTRESSED CONCRETE PILE



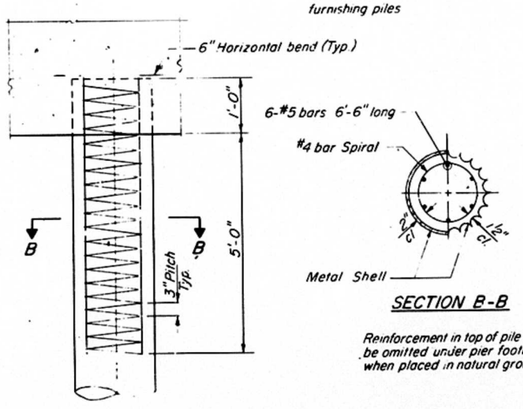
NOTE
Driving and bearing ends of pipe shall be cut square.

The thickness of the shell shall be 0.1793 inches with a tolerance of 5%.

OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

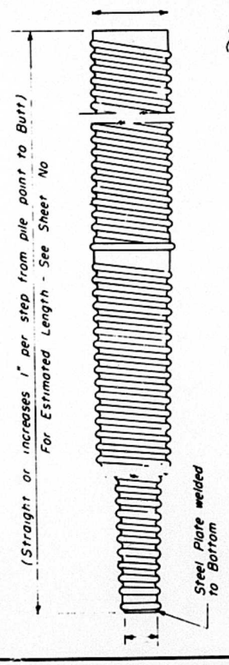
The cost of Reinforcement is incidental to the cost of furnishing piles



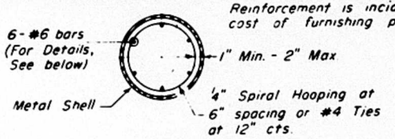
SECTION B-B

Reinforcement in top of pile shall be omitted under pier footings when placed in natural ground.

DETAIL OF REINFORCEMENT FOR METAL SHELLS



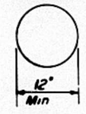
Reinforcement is incidental to the cost of furnishing piles.



SECTION A-A

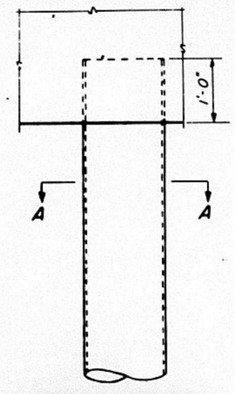
PILE REINFORCEMENT

At least 10% of the length of pile shall have a Butt diameter equal to or greater than 12"
Gauges are furnished to suit soil conditions (16 Gauge avg. min.)



BUTT

POINT
(Applies only to Step Taper type pile)



DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES

PILE DETAILS

McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		244
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 28 of 29

Boring Log — Sh. 1 of 2

PROJECT P9410185
ROUTE FA 317 (US150)
SEC. (14HB)BR.BR-1
COUNTY Peoria
Boring No. B-6
Sta 198+47
O/S 42'LT CL EB

BRIDGE US. 150 WAR MEMORIAL OVER IL. 29 ADAMS STREET
Exist. S.N. 072-0038, Prop. EB 072-0167, WB 072-0168
STA. 197+47
Date 04/08/92
Bored By D. Reants
Checked By B. Irwin

Surf Wat El. N/A
Grndwater El. at Compl XX
At 24+ Hrs *

	El.	N	Qu t/sf	W %
Ground Surface 504.7	0			
Brown SAND w/ trace of GRAVEL (FILL)		3 3 3		5
	500.7			
Brown LOAM (FILL)	-5	1 1 2	0.2 S	14
	498.2			
Brown SANDY LOAM w/ LOAM seams (FILL)		H 2 2		13
	495.7			
Brown SAND trace H2O (FILL)	-10	6 10 11		12
	493.2			
Brown SAND w/ some GRAVEL (FILL)		4 4 4		6
	490.7			
Brown LOAM (FILL)	-15	1 3 4	0.4 B	17
	488.2			
Brown SAND LOAM seam @ 17.5' (FILL)		3 3 4		11
	485.7			
Gray LOAM (FILL?)	-20	3 5 6	2.2	12
	483.2			
Brown SAND		5 3		

	El.	N	Qu t/sf	W %
Brown SAND		4		5
	480.7			
Brown SAND & GRAVEL	-25	3 6 7		5
blow count on a rock		4 11 11		3
	-30	3 5 5		5
		4 4 3		5
	-35	6 7 7		4
		4 5 7		4
	-40	3 7 11		4
		8 11 13		3
	-45	5 7		

N-Std Pentr Test: 2" OD Sampler, 140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear K-Estimated P-Penetrometer)

Boring Log — Sh. 2 of 2

Project P9410185
Route FA 317 (US150)
Sec. (14HB)BR.BR-1
County Peoria

Boring No. B-6
Sta 198+47
O/S 42'LT CL(150)

	El.	N	Qu t/sf	W %
Brown SAND & GRAVEL	-45	8		4
		7 8 12		4
	-50	6 13 11		3
		6 13 11		4
	-55	6 11 12		3
		6 11 11		3
	-60	7 10 13		3
		7 12 16		2
	-65	10 16 17		3
	438.2			
Brown SAND w/ trace of GRAVEL		6 10 17		3
	-70	7 12		

	El.	N	Qu t/sf	W %
Brown SAND w/ trace of GRAVEL	-70			
		14		3
		6 10 15		3
	430.7			
Brown SAND & GRAVEL	-75	10 14 15		5
Free H2O ▼				
		3 7 9		13
	-80	9 9 13		18
		5 5 5		16
	420.7			
End of Boring XX not taken * Hole collapsed @ 478.0 H=weight of hammer	-85			
	-90			
	-95			

Boring Log — Sh. 1 of 2

District Four Materials

PROJECT P9410185
ROUTE FA 317 (US150)
SEC. (14HB)BR.BR-1
COUNTY Peoria
Boring No. AD-6
Sta 198+40
O/S 40'RT CL EB

BRIDGE US. 150 WAR MEMORIAL OVER IL. 29 ADAMS STREET
Exist. S.N. 072-0038, Prop. EB 072-0167, WB 072-0168
STA. 197+47
Date 12/31/74
Bored By Raymond Internat'l
Checked By B. Irwin

Surf Wat El. NONE
Grndwater El. at Compl XX
At 24 Hrs XX

	El.	N	Qu t/sf	W %
Ground Surface 504.6	0			
SAND w/ GRAVEL & COBBLES				
	501.6			
Brown SAND w/ some GRAVEL	-5	22		11
	496.6			
Gray & Black SAND w/ GRAVEL & trace of SILT	-10	21	4.5	11
	-15	12	2.3	15
	488.1			
Brown SANDY SILT w/ some GRAVEL				
	-20	5	1.6	15
	483.1			
SAND w/ GRAVEL & trace of SILT				

	El.	N	Qu t/sf	W %
SAND w/ GRAVEL & trace of SILT				
	-25	16		8
	-30	19		10
	-35	28		6
	468.6			
SAND w/ GRAVEL				
	-40	36		5
	-45	34		4

N-Std Pentr Test: 2" OD Sampler, 140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear K-Estimated P-Penetrometer)

Project P9410185
Route FA 317 (US150)
Sec. (14HB)BR.BR-1
County Peoria

Sh. 2 of 2

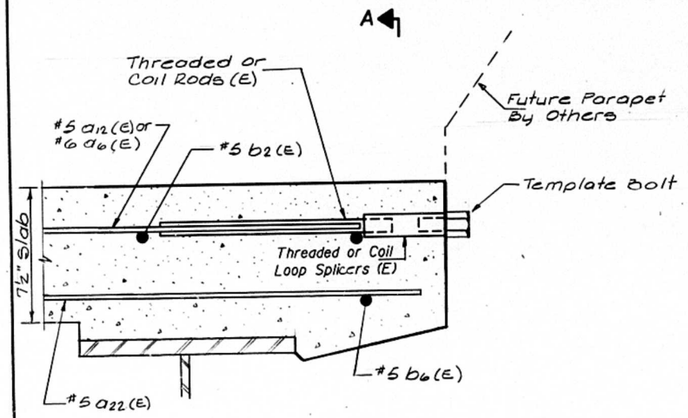
Boring No. AD-6
Sta 198+40
O/S 40'RT CL EB

	El.	N	Qu t/sf	W %
SAND w/ GRAVEL	-45			
	-50	23		8
	453.6			
SAND w/ GRAVEL & trace of LIMESTONE fragments				
	-55	50		3
	444.6			
End of Boring XX=not taken	-60	30		9
	-65			
	-70			

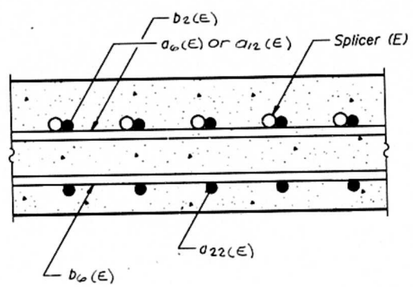
	El.	N	Qu t/sf	W %
	-70			
	-75			
	-80			
	-85			
	-90			
	-95			

BORINGS
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA		244A
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			



SECTION THRU SLAB

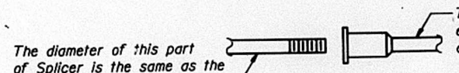


SECTION A-A

SPLICER DETAILS

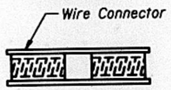
(No. Req'd. 293)

Cost incidental to Reinforcement Bars (Epoxy Coated).



ROLLED THREAD DOWEL BAR

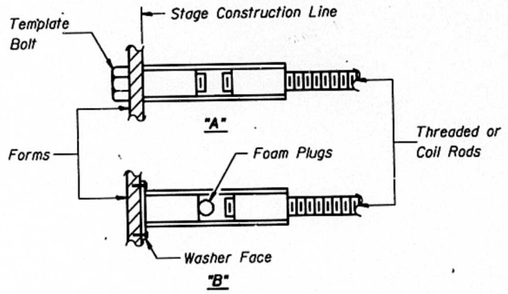
** ONE PIECE



WELDED SECTIONS

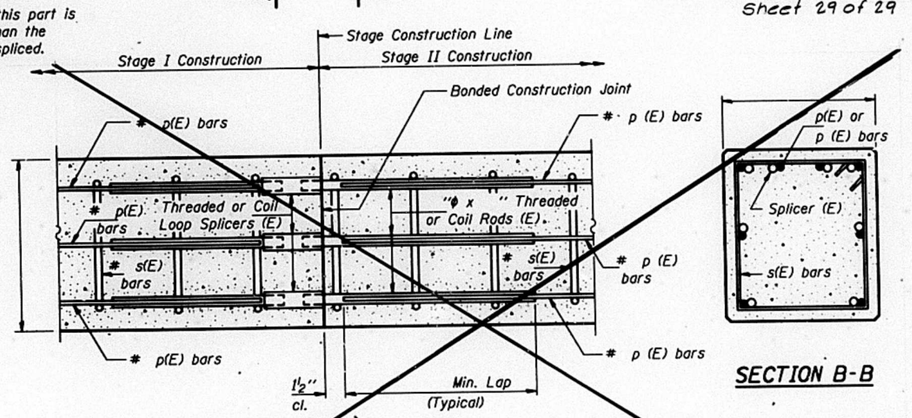
SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set splicer by means of a template bolt.
"B" : Set splicer by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



SECTION THRU ABUTMENTS AND PIERS

SECTION B-B

SPLICER DETAILS

(No. Req'd.)

Cost incidental to Reinforcement Bars (Epoxy Coated).

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods.

Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = $1.25 \times fy \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.

fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)

A_t = Tensile stress area of lapped reinforcement bars.

* = 28 day concrete

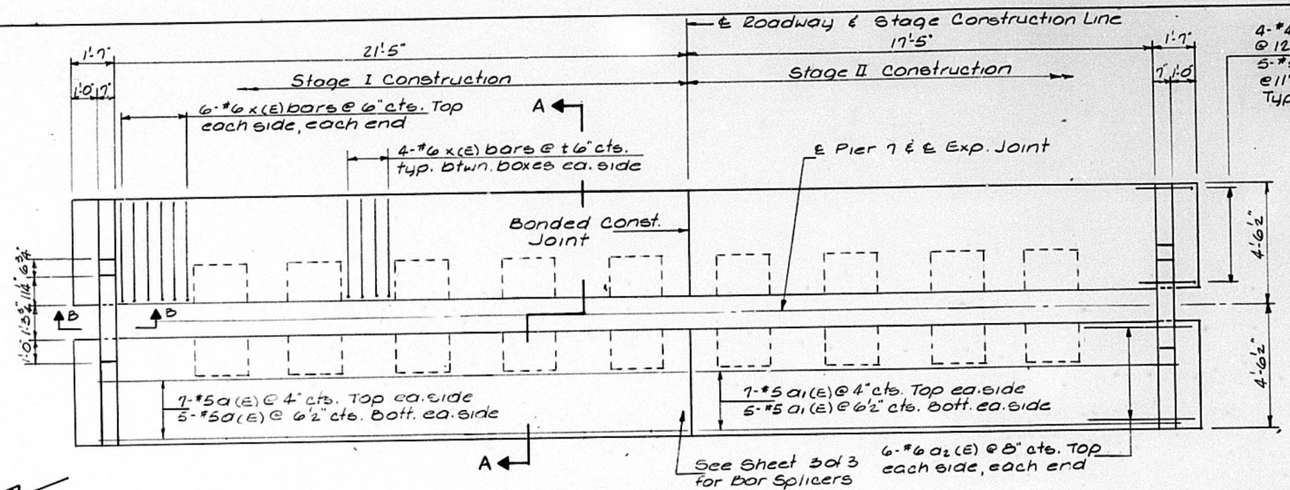
Typical Splicer (Coupler) Assembly Sizes:

In Slabs	#5 bar lap with ¾"ϕ Splicer (Coupler) x 2'-0" Splicer Rods	Minimum Capacity = 23.0 kips-tension Minimum Pull-out Strength = 9.2 kips-tension
	#6 bar lap with ⅞"ϕ Splicer (Coupler) x 2'-7" Splicer Rods	Minimum Capacity = 33.1 kips-tension Minimum Pull-out Strength = 13.3 kips-tension
~~In Sub-Structure~~	~~#7 bar lap with 1"ϕ Splicer (Coupler) x 3'-5" Splicer Rods~~	~~Minimum Capacity = 45.1 kips-tension~~ ~~Minimum Pull-out Strength = 18.0 kips-tension~~
	~~#8 bar lap with 1¼"ϕ Splicer (Coupler) x 4'-6" Splicer Rods~~	~~Minimum Capacity = 58.9 kips-tension~~ ~~Minimum Pull-out Strength = 23.6 kips-tension~~

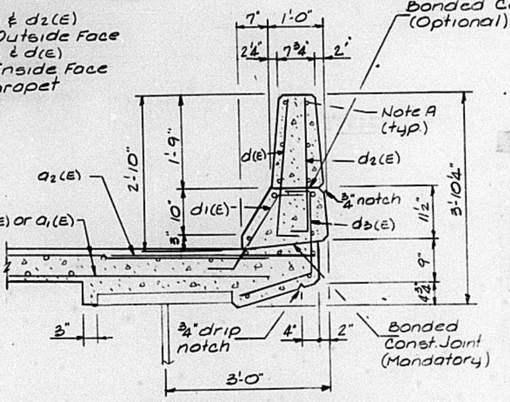
BAR SPLICER (COUPLER) DETAILS
McCLUGAGE BRIDGE APPROACHES
(WEST BOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA COUNTY
STATION 511 + 30.11
STRUCTURE NO. 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA/ TAZEWELL		245
STA.		TO STA.		
F.H.W.A. REQ.		ILLINOIS		

Sheet 1 of 3



PLAN - PIER 7

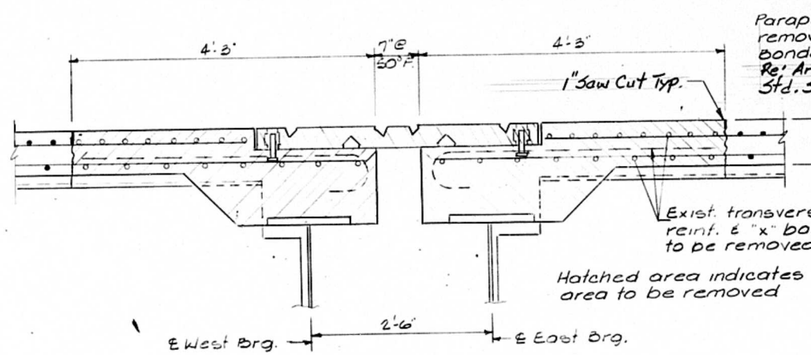


SECTION THRU PARAPET

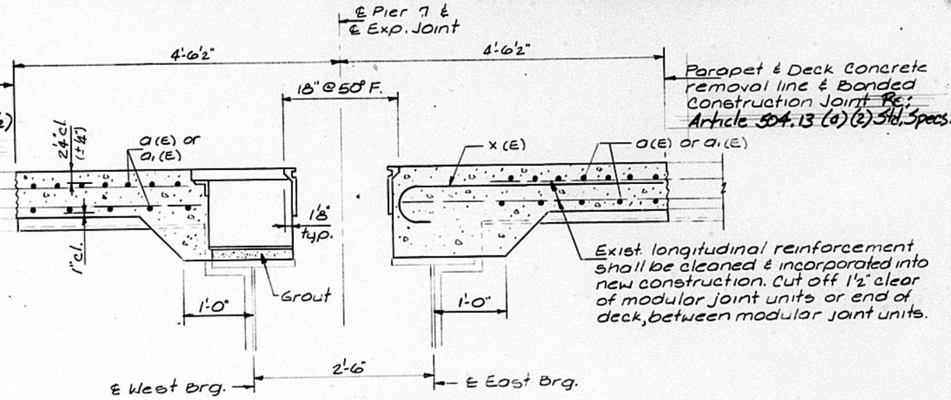
Note A: All horiz. reinf. in parapet shall be cleaned & incorporated into new const. Cut off 1½" clear of modular joint.

GENERAL NOTES

1. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING NEOPRENE EXPANSION JOINT AND REPLACE WITH A MODULAR EXPANSION JOINT (12") BY THE D.S.BROWN COMPANY. BROWN/MAURER "TMM-321" MAINTAINABLE JOINT SYSTEM.
2. THE PARAPET SLIDING PLATES SHALL BE ASSEMBLED IN THE PROPER POSITION AND SHALL BE LEFT ASSEMBLED FOR SHOP INSPECTION.
3. THE PARAPET SLIDING PLATES SHALL BE SHOP PAINTED WITH THE ZINC-SILICATE AND VINYL PAINT SYSTEM. THE COLOR OF THE VINYL FINISH COATS SHALL MATCH COLOR OF EXISTING SN 090-0070.
4. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.
5. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
6. SEE SPECIAL PROVISIONS.



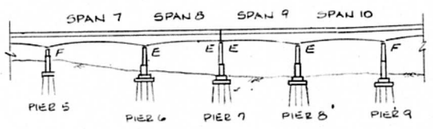
SECTION A-A EXISTING



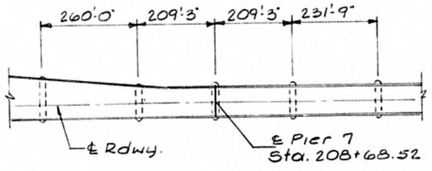
SECTION A-A PROPOSED

STAGING SEQUENCE

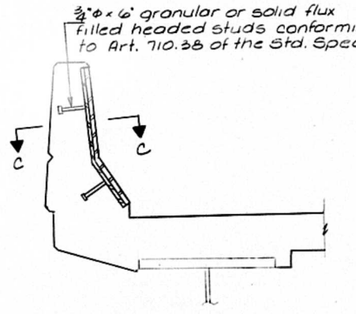
1. THIS WORK SHALL BE COORDINATED WITH OVERALL PROJECT TRAFFIC CONTROL REQUIREMENTS.
2. THE STAGE 1 PLACEMENT OF THE NEW JOINT MATERIALS SHALL BE THE LANES NORTH OF THE ECCENTRICALLY LOCATED CENTERLINE OF ROADWAY. THE LANES SOUTH OF THE CENTERLINE OF ROADWAY SHALL REMAIN OPEN TO ONE-WAY TRAFFIC AT ALL TIMES.
3. STAGE 2 PLACEMENT OF THE NEW JOINT, THE REMAINDER OF THE JOINT, SHALL BE PLACED WHILE MAINTAINING ONE-WAY TRAFFIC AT ALL TIMES IN THE LANES NORTH OF THE CENTERLINE OF ROADWAY.



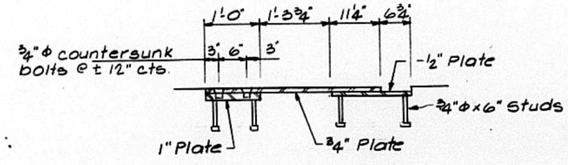
PARTIAL ELEVATION
(Look North)



PARTIAL PLAN

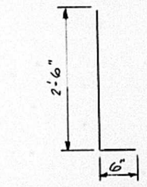


SECTION B-B

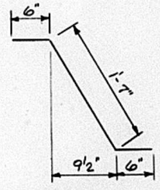


SECTION C-C

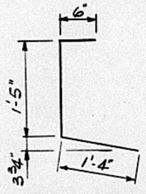
FRANK L. TILEY
081-3139
LICENSED STRUCTURAL ENGINEER
OF 3
ILLINOIS
3-19-93



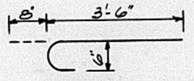
BARS d(E) & d2(E)



BAR d1(E)



BAR d3(E)



BAR x(E)

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	24	#5	22'-1"	
a1(E)	24	#5	18'-1"	
a2(E)	24	#6	4'-0"	
d(E)	20	#5	3'-0"	
d1(E)	20	#5	2'-7"	
d2(E)	16	#4	3'-0"	
d3(E)	16	#4	3'-3"	
x(E)	88	#6	4'-2"	
* Class X Concrete Removal		Cu.Yds.	19.9	
Class X Concrete Superstructure		Cu.Yds.	13.8	
Reinforcement Bars Epoxy Coated		Lbs.	1880	
Structural Steel		Lbs.	970	
* Modular Expansion Joint, 12" (TMM-321)		Lin. Ft.	41	
Bar Splicers		Each	24	

* See Special Provisions

NOTES

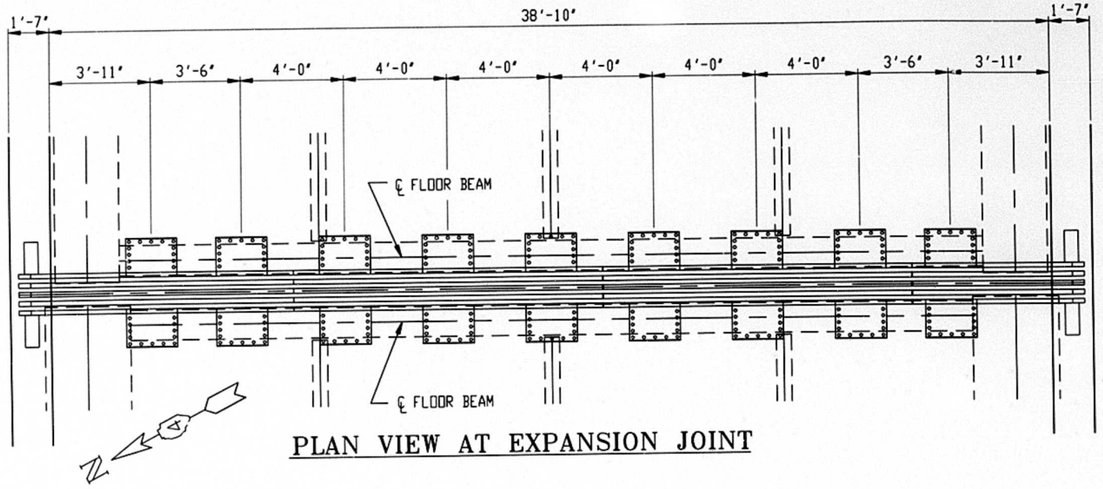
Reinforcement Bars designated (E) shall be epoxy coated.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
Engineer of Bridges and Structures

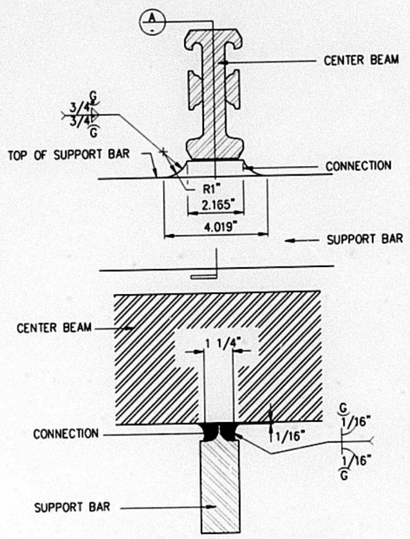
BRIDGE REPAIRS
MODULAR EXPANSION JOINT - PIER 7
McCLUGAGE BRIDGE (WESTBOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA-TAZEWELL COUNTIES
STATION 208+68.52
STRUCTURE NO. 090-0115

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15HB-1) I	PEORIA TAZEWELL		246
		ILLINOIS	FED. AID PROJECT	

SHEET #2 OF 3

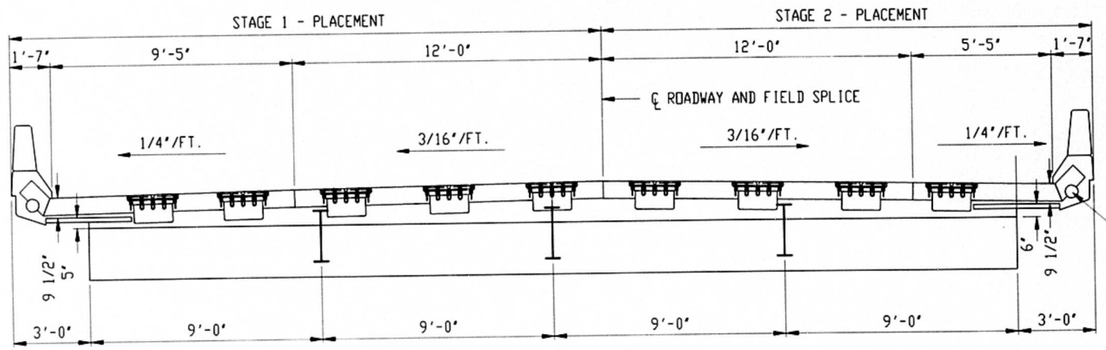


PLAN VIEW AT EXPANSION JOINT



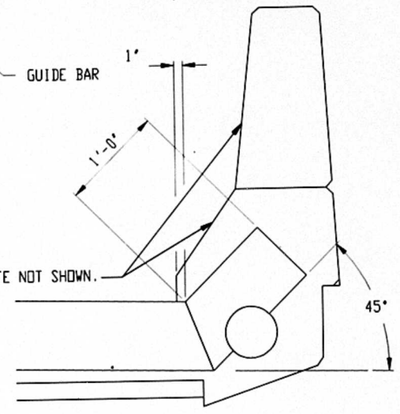
A SECTION THRU CONNECTION

MODULAR EXPANSION JOINT CONNECTION DETAIL

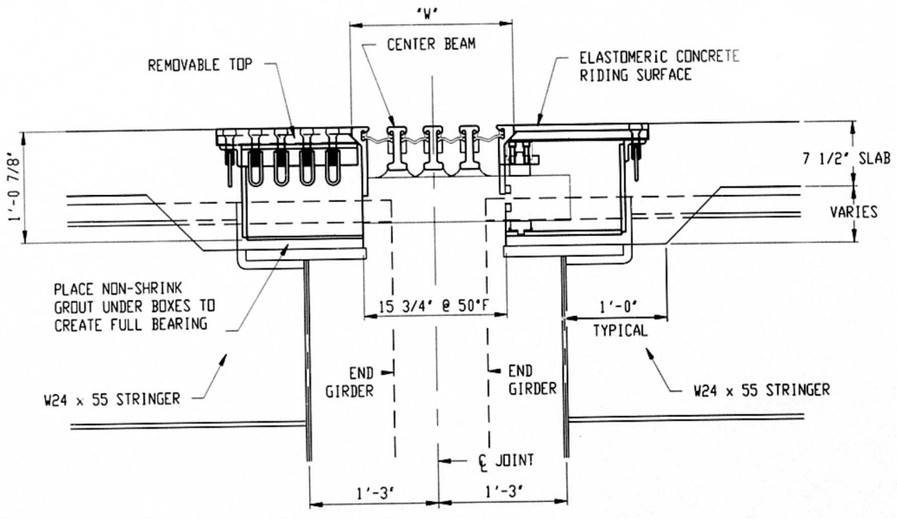


ELEVATION AT EXPANSION JOINT

(LOOKING EAST)

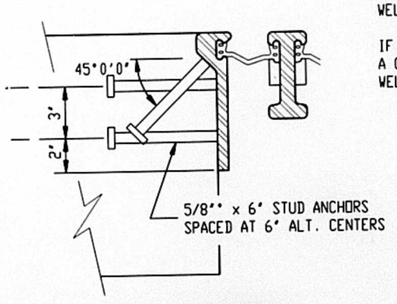


BARRIER TREATMENT



SECTION THRU EXPANSION JOINT

TEMP. °F	"W"
130	12.32"
120	13.03"
110	13.74"
100	14.45"
90	15.16"
80	15.87"
70	16.58"
60	17.29"
50	18"
40	18.71"
30	19.42"
20	20.13"
10	20.84"
0	21.55"
-10	22.26"
-20	22.97"
-30	23.68"
MIN. TEMP.	24.29"
MAX. TEMP.	11.70"



STUD ANCHORS

GENERAL NOTES

'SSPA' FRAME RAILS TO BE AASHTO M270 GR. 50W STEEL.

CENTER BEAMS TO BE AASHTO M270 GR. 50 STEEL
(2 1/8" WIDE, 5" TALL, AND 7/8" WEB MINIMUM)

SUPPORT BARS TO BE FABRICATED FROM 1 1/2" THICK MINIMUM
AASHTO M270 GR. 50 STEEL PLATE.
STAINLESS STEEL SLIDING SURFACES TO BE A240, TYPE 304, 2b FINISH.

SUPPORT BAR BOXES AND LEVELING DEVICES TO BE AASHTO M270 GR. 36 STEEL.

STUD ANCHORS TO BE ASTM A108 AUTOMATIC ARC WELDED.

NO ALUMINUM COMPONENTS SHALL BE ALLOWED.

NEOPRENE STRIP SEALS TO BE CONTINUOUS.

THE MAXIMUM ALLOWABLE MOVEMENT PER CELL SHALL BE 3".

ALL STEEL SURFACES EXCEPT THOSE OF STAINLESS STEEL OR IN CONTACT WITH THE NEOPRENE SEAL SHALL BE SHOP PAINTED WITH AN INORGANIC ZINC PRIMER IN ACCORDANCE WITH ARTS. 509.03 & 509.04 OF THE STANDARD SPECIFICATIONS.

EXPANSION JOINT SHALL BE SHIPPED IN TWO UNITS WITH THE LONGEST UNIT HAVING THE SEAL INSTALLED WITH THE REMAINING SEAL ROLLED UP. CENTER BEAMS SHALL BE SPLICED AT THE ℄ ROADWAY USING COMPLETE PENETRATION GROOVE WELDS.

EXPANSION JOINTS SHALL BE EQUIPPED WITH TEMPERATURE ADJUSTMENT DEVICES TO ALLOW FOR ADJUSTMENT PER FIELD ENGINEERS RECOMMENDATIONS.

A TECHNICAL REPRESENTATIVE SHALL BE PRESENT DURING PLACEMENT OF THE EXPANSION JOINT. THE TECHNICAL REPRESENTATIVE SHALL BE A FULL-TIME EMPLOYEE OF THE EXPANSION JOINT SUPPLIER/FABRICATOR

THE EXPANSION JOINT SYSTEM SHALL BE PREQUALIFIED BASED ON FATIGUE ANALYSIS TESTING TO 100 MILLION TRUCK LOAD CYCLES MINIMUM. THE SUPPLIER SHALL DOCUMENT AND CERTIFY THAT THE EXPANSION JOINT SYSTEM HAS BEEN PROPERLY TESTED TO ACHIEVE THE 100 MILLION CYCLE FATIGUE LIFE. THE FABRICATOR OF THE TEST SPECIMENS USED IN THE FATIGUE ANALYSIS TESTING SHALL BE THE SAME FABRICATOR OF THE SUPPLIED EXPANSION JOINT SYSTEM.

THE SUPPLIER/FABRICATOR SHALL BE AN AISC CATEGORY III APPROVED FABRICATION FACILITY.

THE MAXIMUM SPACING OF THE SUPPORT BOXES SHALL BE 4'-0" O.C. UNLESS OTHERWISE DOCUMENTED AND CERTIFIED BY FATIGUE ANALYSIS TESTING. THIS SHALL BE MANDATORY. NO ALTERNATIVES WILL BE CONSIDERED.

ALL SPLICES OF CENTER BEAMS SHALL BE FULL PENETRATION WELDS (EXCEPT UPTURN SPLICES MAY BE PARTIAL PENETRATION WELDS). THE CENTER BEAM/SUPPORT BAR CONNECTION DETAIL SHALL BE COMPLETED AS DETAILED IN THE CONTRACT DOCUMENTS. ALTERNATIVE CONNECTION DETAILS WILL NOT BE CONSIDERED.

SUPPORT BAR/CENTER BEAM CONNECTION SHALL BE WELDED AS DETAILED WITH NO ALTERNATIVE DESIGNS ALLOWED.

SEALING ELEMENT SHALL BE OF 'STRIP SEAL' DESIGN AS DETAILED MEETING ASTM D2628 MODIFIED TO OMIT RECOVERY TESTS. BOX STYLE SEALING ELEMENTS SHALL NOT BE PERMITTED.

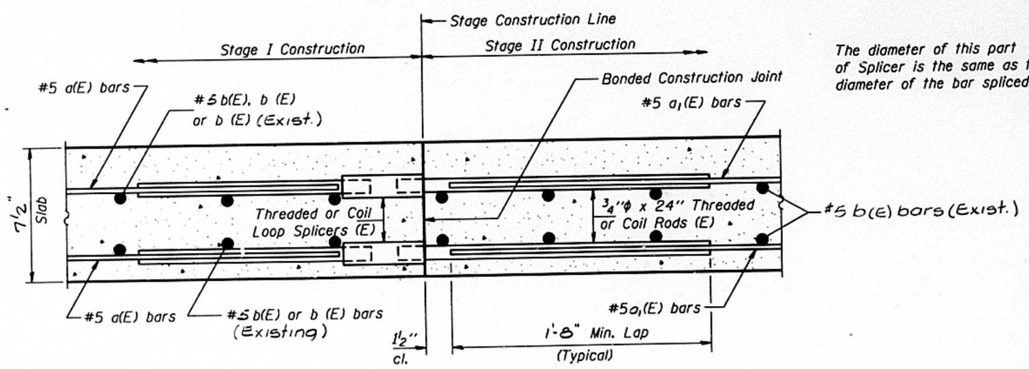
EACH TRANSVERSE CENTER BEAM SHALL BE INDIVIDUALLY SUPPORTED BY AN INDEPENDENT SUPPORT BAR WELDED TO THE CENTER BEAM USING COMPLETE PENETRATION FUSION WELDS. BOLTED CONNECTIONS WILL NOT BE PERMITTED.

IF A RETAINER CLIP IS USED FOR LOCKING THE STRIP SEAL IT SHALL BE A CONTINUOUS WELD ON THE TOP SIDE, AND AT A MINIMUM, AN INTERMITTENT WELD ON THE OPPOSITE SIDE.

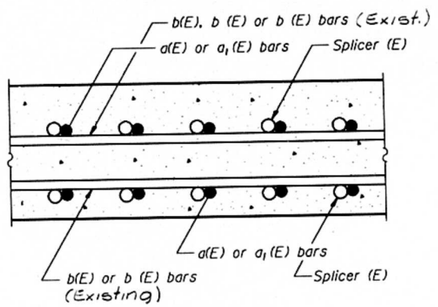
12" MODULAR EXPANSION JOINT
MODULAR EXPANSION JOINT – PIER 7
McCLUGAGE BRIDGE (WESTBOUND)
F A ROUTE 317 SECTION (15B-1) I
PEORIA–TAZEWELL COUNTIES
STATION 208+68.52
STRUCTURE NUMBER 090-0115

FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1) I	PEORIA / TAZEWELL		247
STA.		TO STA.		
F.H.W.A. REG.	ILLINOIS			

Sheet 3 of 3

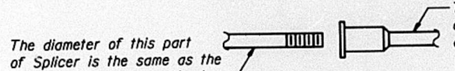


SECTION THRU SLAB



SECTION A-A

SPLICER DETAILS
(No. Req'd. 24)



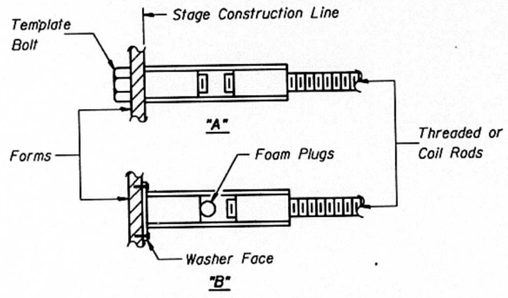
ROLLED THREAD DOWEL BAR

** ONE PIECE

WELDED SECTIONS

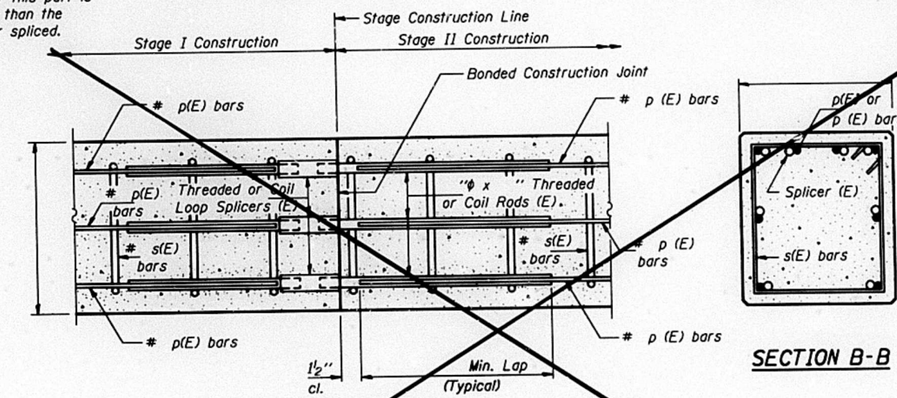
SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set splicer by means of a template bolt.
"B" : Set splicer by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



SECTION THRU ABUTMENTS AND PIERS

SECTION B-B

SPLICER DETAILS

(No. Req'd.)

Cost incidental to Reinforcement Bars (Epoxy Coated).

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods.

Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = $1.25 \times fy \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $1.25 \times fs_{allow} \times A_t$

Where fy = Yield strength of lapped reinforcement bars in ksi.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

In Slabs	#5 bar lap with ⅝"ϕ Splicer (Coupler) x 2'-0" Splicer Rods	Minimum Capacity = 23.0 kips-tension	Minimum Pull-out Strength = 9.2 kips-tension
In Sub-Structure	#6 bar lap with ⅞"ϕ Splicer (Coupler) x 2'-7" Splicer Rods	Minimum Capacity = 33.1 kips-tension	Minimum Pull-out Strength = 13.3 kips-tension
	#7 bar lap with 1"ϕ Splicer (Coupler) x 3'-5" Splicer Rods	Minimum Capacity = 45.1 kips-tension	Minimum Pull-out Strength = 18.0 kips-tension
	#8 bar lap with 1¼"ϕ Splicer (Coupler) x 4'-6" Splicer Rods	Minimum Capacity = 58.9 kips-tension	Minimum Pull-out Strength = 23.6 kips-tension

BAR SPLICER (COUPLER) DETAILS
MODULAR EXPANSION JOINT - PIER 7
McCLUGAGE BRIDGE (WESTBOUND)
F.A. ROUTE 317 SECTION (15B-1) I
PEORIA-TAZEWELL COUNTIES
STATION 208+68.52
STRUCTURE NO. 090-0115