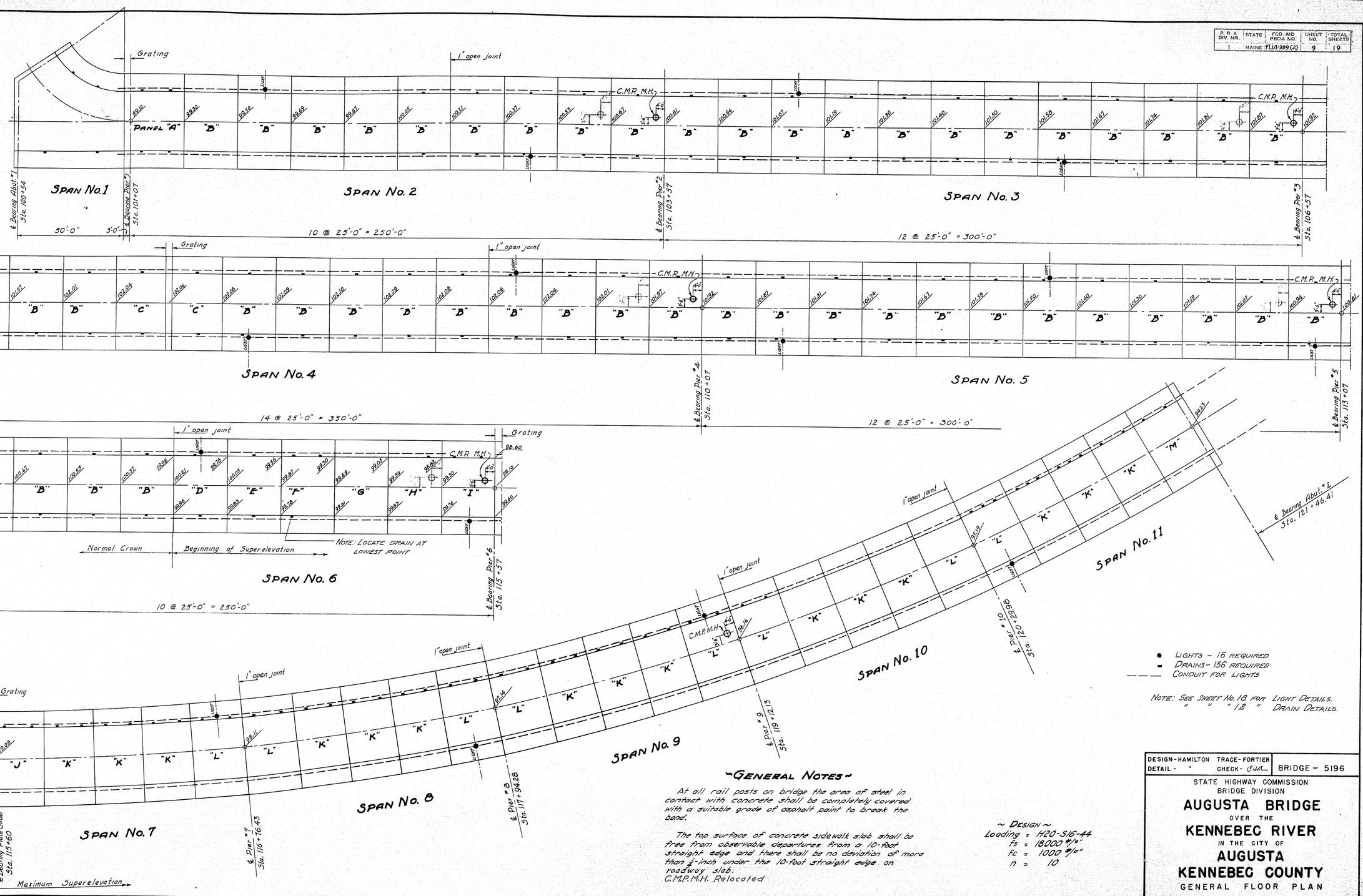
P. R. A. DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	FI.(U)-389 (2)	9	19



- LIGHTS - 16 REQUIRED
- DRAINS - 156 REQUIRED
- CONDUIT FOR LIGHTS

NOTE: SEE SHEET No. 18 FOR LIGHT DETAILS.
" " " 12 " DRAIN DETAILS.

"GENERAL NOTES"

At all rail posts on bridge the area of steel in contact with concrete shall be completely covered with a suitable grade of asphalt paint to break the bond.

The top surface of concrete sidewalk slab shall be free from observable departures from a 10-foot straight edge and there shall be no deviation of more than ¼-inch under the 10-foot straight edge on roadway slab.
C.M.P.M.H. Relocated

~ DESIGN ~
Loading = H20-S16-44
fs = 18000 #/□"
fc = 1000 #/□"
n = 10

DESIGN - HAMILTON TRACE - FORTIER
DETAIL - " CHECK - CJA

BRIDGE - 5196

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

GENERAL FLOOR PLAN

SHEET 9 OF 19 AUGUSTA, MAINE JAN. 1949

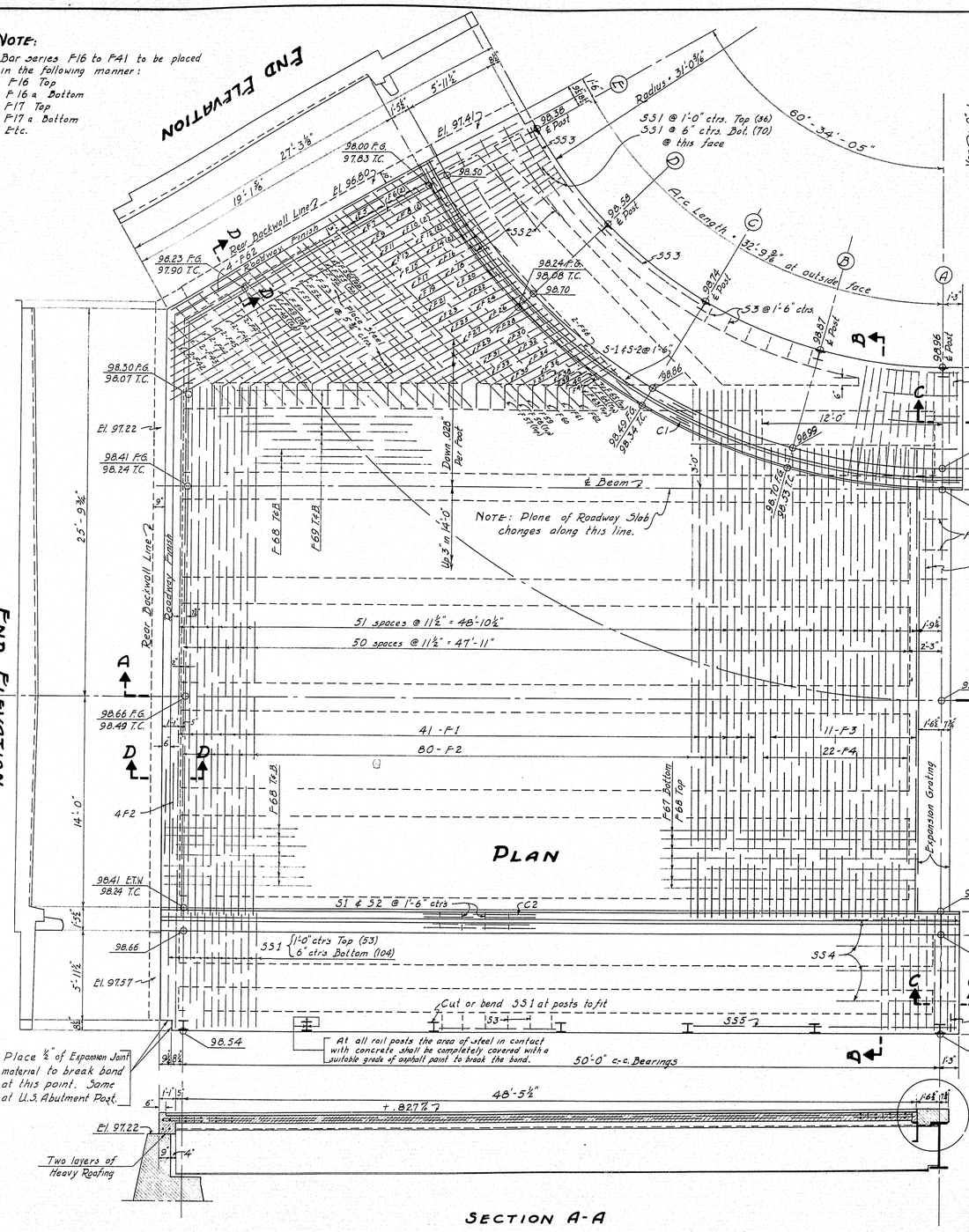
52-54

0 1 2 3 4 5 INCHES

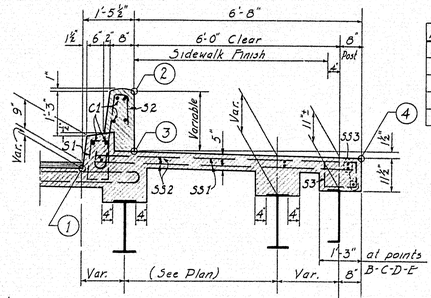
P. R. A. DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	FIUI-389(2)	10	19

NOTE:
Bar series F16 to F41 to be placed in the following manner:
F16 Top
F16 a Bottom
F17 Top
F17 a Bottom
Etc.

END ELEVATION



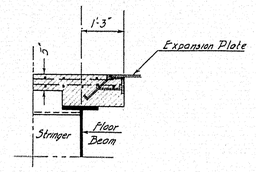
SECTION A-A



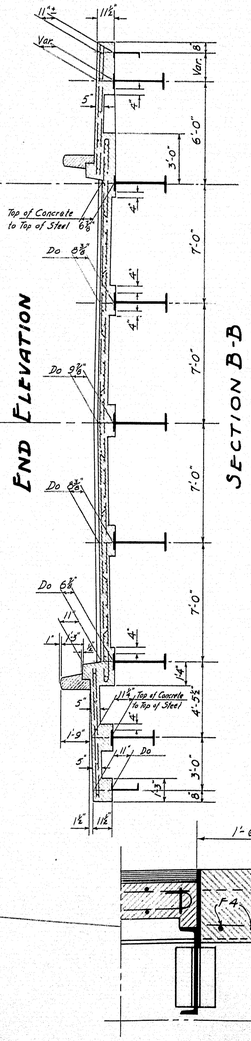
RADIAL SECTION U.S. SIDEWALK

Point	El. ①	El. ②	El. ③	El. ④
Ⓐ	98.83*	100.83	99.08	98.96
Ⓑ	98.53	100.70	98.99	98.87
Ⓒ	98.34	100.49	98.86	98.74
Ⓓ	98.08	100.24	98.70	98.58
Ⓔ	97.83	100.00	98.50	98.38

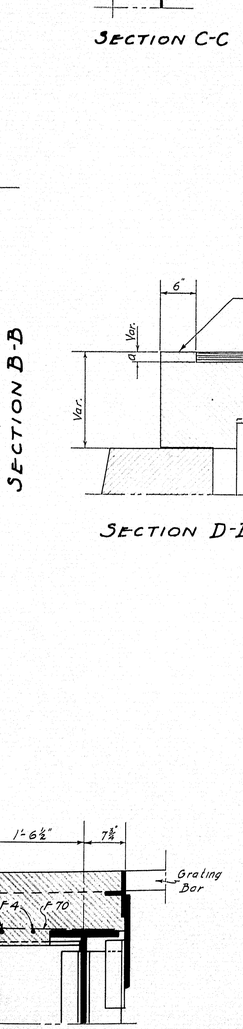
* F.Gr. at Ⓐ only.



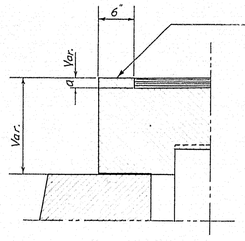
SECTION C-C



END ELEVATION



SECTION B-B



SECTION D-D

NOTE: It is important that work at this point shall be carefully done; the following method is suggested.

This portion of the concrete dam (a x 6") may be omitted when the slab is placed provided the top surface is left rough and this said portion is placed as soon as it is possible to work on the slab without damage to it, and further provided that small steel dowels, ½"ø x 3" min. at 2'-0" centers, are placed in the slab before the concrete takes its initial set; also the (a x 6") concrete portion shall be in position before the slab concrete takes final set.

Payment for ½"ø x 3" Dowels, if used, to be included in the Contract Unit Price for Concrete.

DESIGN - HAMILTON TRACE - FORTIER
DETAIL - " CHECK - Allen
BRIDGE - 5196

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

FLOOR DETAILS - SPAN No. 1

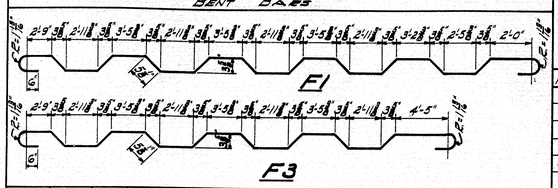
SHEET 10 OF 19 AUGUSTA, MAINE JAN. 1949

52-55

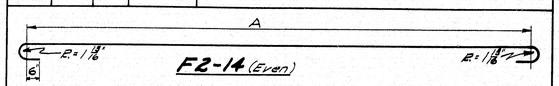
0 1 2 3 4 5 INCHES

SPAN No. 1

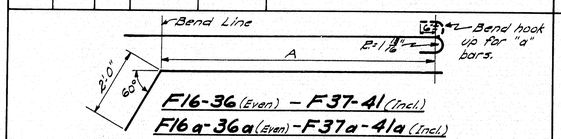
BENT BARS



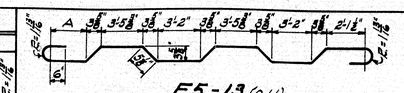
MARK	No.	SIZE	LENGTH	LOCATION
F1	41	⅝"ø	38'-9"	Main Slab
F3	11	"	34'-8"	" "



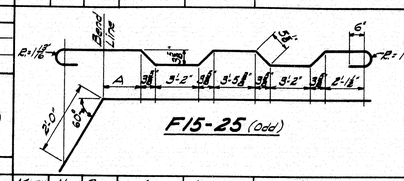
MARK	No	SIZE	A	LENGTH	LOCATION
F2	84	⅝"ø	35'-6"	37'-5"	Main Slab
F4	84	"	31'-8	32'-7"	" "
F6	2	"	20'-1"	22'-0"	" " U.S.
F8	2	"	21'-1"	23'-0"	" " "
F10	2	"	21'-9"	23'-8"	" " "
F12	2	"	22'-6"	24'-5"	" " "
F14	2	"	23'-3"	25'-2"	" " "



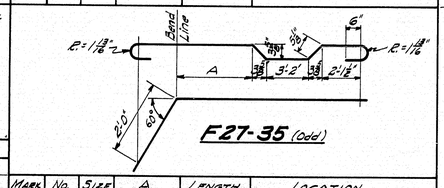
MARK	No.	SIZE	A	LENGTH	LOCATION
F16	1	⅝"ø	19'-6"	22'-6"	Top Main Slab U.S.
F16a	1	"	19'-6"	"	Bot. " " "
F18	1	"	18'-0"	21'-0"	Top " " "
F18a	1	"	18'-0"	"	Bot. " " "
F20	1	"	16'-6"	19'-6"	Top " " "
F20a	1	"	16'-6"	"	Bot. " " "
F22	1	"	15'-0"	18'-0"	Top " " "
F22a	1	"	15'-0"	"	Bot. " " "
F24	1	"	13'-6"	16'-6"	Top " " "
F24a	1	"	13'-6"	"	Bot. " " "
F26	1	"	12'-0"	15'-0"	Top " " "
F26a	1	"	12'-0"	"	Bot. " " "
F28	1	"	10'-6"	13'-6"	Top " " "
F28a	1	"	10'-6"	"	Bot. " " "
F30	1	"	9'-0"	12'-0"	Top " " "
F30a	1	"	9'-0"	"	Bot. " " "
F32	1	"	7'-6"	10'-6"	Top " " "
F32a	1	"	7'-6"	"	Bot. " " "
F34	1	"	6'-0"	9'-0"	Top " " "
F34a	1	"	6'-0"	"	Bot. " " "
F36	1	"	4'-6"	7'-6"	Top " " "
F36a	1	"	4'-6"	"	Bot. " " "
F37	1	"	4'-0"	7'-0	Top " " "
F37a	1	"	4'-0"	"	Bot. " " "
F38	1	"	3'-6"	6'-6"	Top " " "
F38a	1	"	3'-6'	"	Bot. " " "
F39	1	"	3'-0"	6'-0"	Top " " "
F39a	1	"	3'-0"	"	Bot. " " "
F40	1	"	2'-6"	5'-6"	Top " " "
F40a	1	"	2'-6"	"	Bot. " " "
F41	1	"	2'-0"	5'-0"	Top " " "
F41a	1	"	2'-0"	"	Bot. " " "



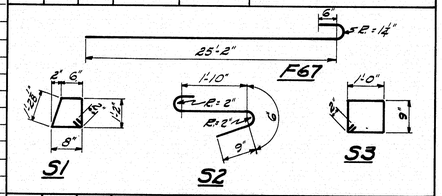
MARK	No.	SIZE	A	LENGTH	LOCATION
F5	1	⅝"ø	3'-1"	22'-6"	Main Slab U.S.
F7	1	"	3'-10"	23'-3"	" " "
F9	1	"	4'-8"	24'-1"	" " "
F11	1	"	5'-6"	24'-11"	" " "
F13	1	"	6'-3"	25'-8"	" " "



MARK	No	SIZE	A	LENGTH	LOCATION
F15	1	⅝"ø	7'-3"	24'-9"	Main Slab U.S.
F17	1	"	5'-6"	23'-0"	" " "
F19	1	"	4'-3"	21'-9"	" " "
F21	1	"	2'-9"	20'-3"	" " "
F23	1	"	1'-6"	19'-0"	" " "
F25	1	"	0'-6"	18'-0"	" " "



MARK	No.	SIZE	A	LENGTH	LOCATION
F27	1	⅝"ø	5'-9"	15'-10"	Main Slab U.S.
F29	1	"	4'-3"	14'-4"	" " "
F31	1	"	2'-6"	12'-7"	" " "
F33	1	"	1'-3"	11'-4"	" " "
F35	1	"	0'-6"	10'-7"	" " "

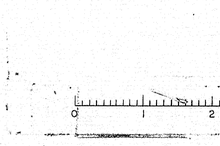


MARK	No.	SIZE	LENGTH	LOCATION
F67	31	½"ø	26'-0"	Main Slab U.S.
S1	63	⅜"ø	3'-10"	U.S. & D.S. Curbs
S2	63	"	4'-1"	" " " "
S3	62	"	3'-10"	" " " "

STRAIGHT BARS

MARK	No.	SIZE	LENGTH	LOCATION
F42	2	½"ø	6'-0"	Roadway Slab U.S.
F43	2	"	8'-0"	" " "
F44	2	"	9'-0"	" " "
F45	2	"	10'-0"	" " "
F46	2	"	11'-0"	" " "
F47	2	"	11'-6"	" " "
F48	1	"	12'-6"	" " "
F49	1	"	13'-0"	" " "
F50	1	"	13'-6"	" " "
F51	1	"	13'-9"	" " "
F52	1	"	14'-6"	" " "
F53	1	"	14'-9"	" " "
F54	1	"	15'-0"	" " "

MARK	No.	SIZE	LENGTH	LOCATION
F55	1	½"ø	15'-3"	Roadway Slab U.S.
F56	1	"	15'-6"	" " "
F57	1	"	17'-6"	" " "
F58	1	"	18'-0"	" " "
F59	1	"	18'-3"	" " "
F60	1	"	18'-9"	" " "
F61	1	"	19'-0"	" " "
F62	5	"	20'-0"	" " "
F63	1	"	20'-3"	" " "
F64	1	"	20'-9"	" " "
F65	1	"	21'-3"	" " "
F66	2	"	22'-0"	" " "
F68	69	"	25'-9"	Main Roadway Slab
F69	6	"	39'-0"	" " "
F70	14	"	2'-0"	" " " at Grating
S51	263	½"ø	7'-6"	Sidewalk Slab U.S. & D.S.
S52	16	"	22'-0"	" " " " (Splice)
S53	12	"	8'-1"	" " " "
S54	16	"	27'-2"	" " " " (Splice)
S55	18	"	8'-3"	" " " "
C1	12	½"ø	22'-10"	Sidewalk Curbs U.S. (Splice)
C2	12	"	27'-0"	" " D.S. (Splice)



P. R. A. DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	FI,UT-389(2)	11	19

Note: Dimensions to ℄ of steel.

DESIGN - HAMILTON TRACE - CLARK
DETAIL - " CHECK - C.J.R.

BRIDGE – 5196

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

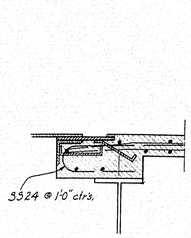
AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

REINFORCING STEEL SPAN No. 1

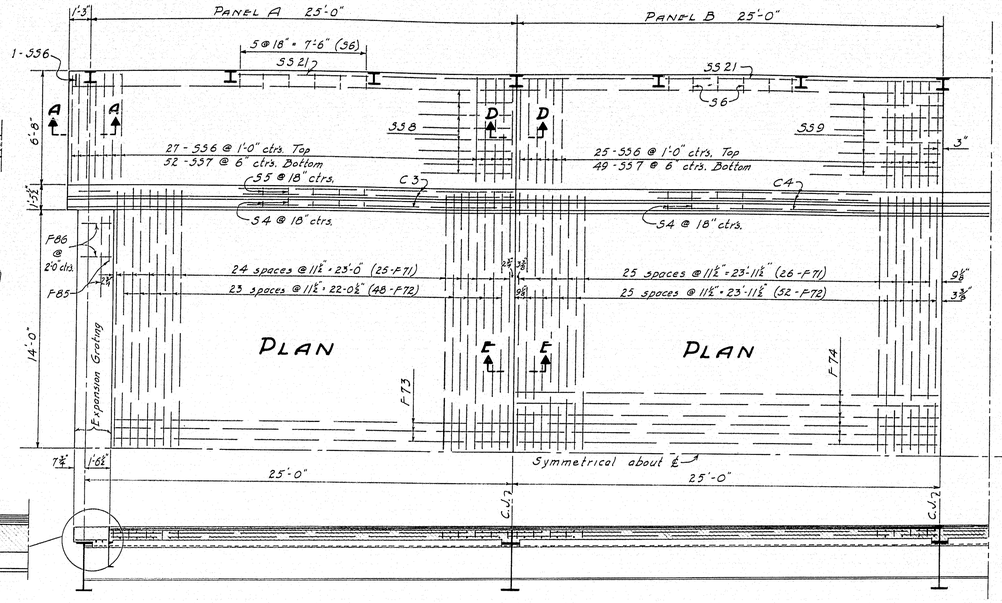
SHEET 11 OF 19 AUGUSTA, MAINE. JAN. 1949

52-56

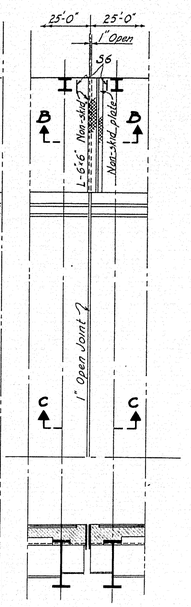
S. P. R. No.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	FI-UI-389 (2)	12	19



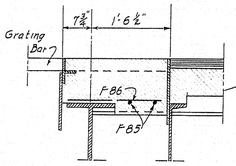
SECTION A-A
(See "Sidewalk Expansion Detail" on this sheet)

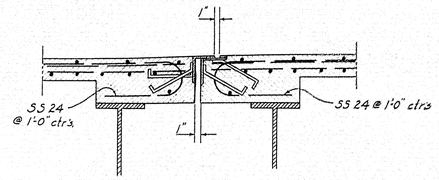


PART LONGITUDINAL SECTION



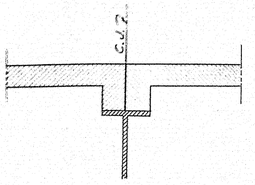
NOTE: Reinforcing steel to be placed the same in panels adjacent to 1" open joint as that shown for Panel "B", except one additional S6



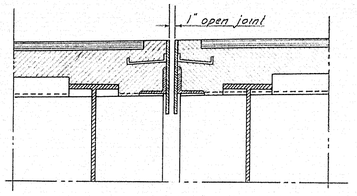


SECTION B-B

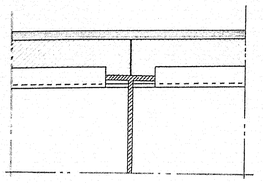
NOTE: Sidewalk Expansion Plates to be furnished by Structural Steel Contractor and erected by Floor Contractor.



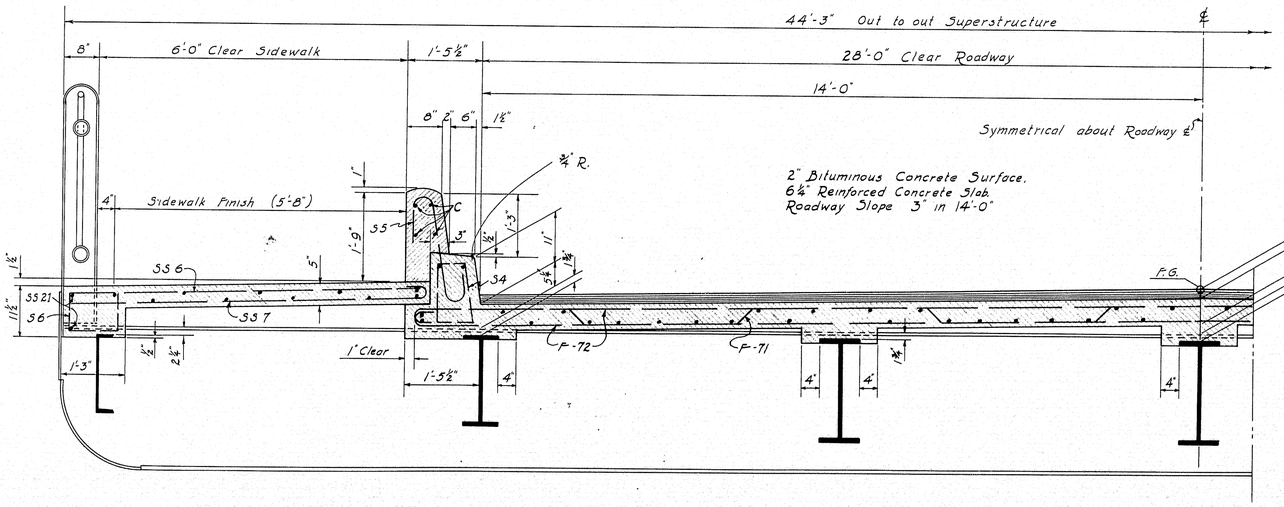
SECTION D-D



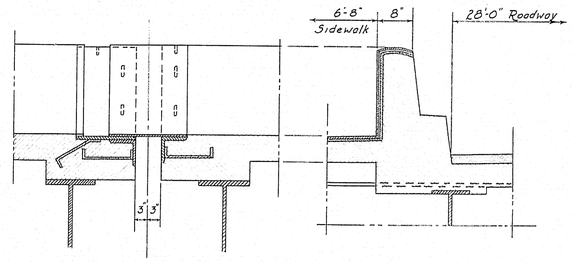
SECTION C-C



SECTION E-E

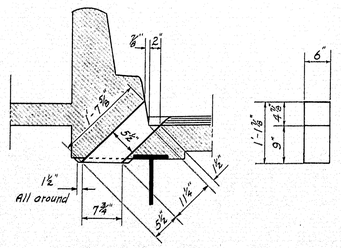


HALF TRANSVERSE SECTION



SIDEWALK EXPANSION DETAIL

NOTE: Sidewalk Expansion Plates to be furnished by Structural Steel Contractor and erected by Floor Contractor.



DRAIN DETAILS
#24 GAGE GALV. IRON (156-REQ'D)
See Sheet #9 of 19 for Location

DESIGN - HAMILTON TRACE - FORTIER
DETAIL - " CHECK - [illegible]
BRIDGE - 5196

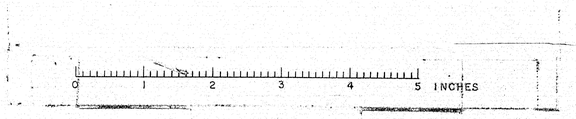
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

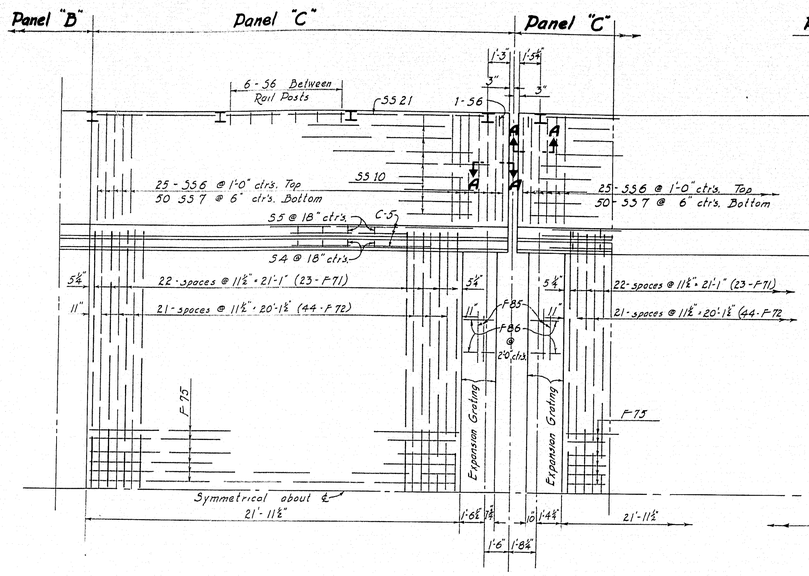
FLOOR DETAILS
PANELS - "A" and "B"

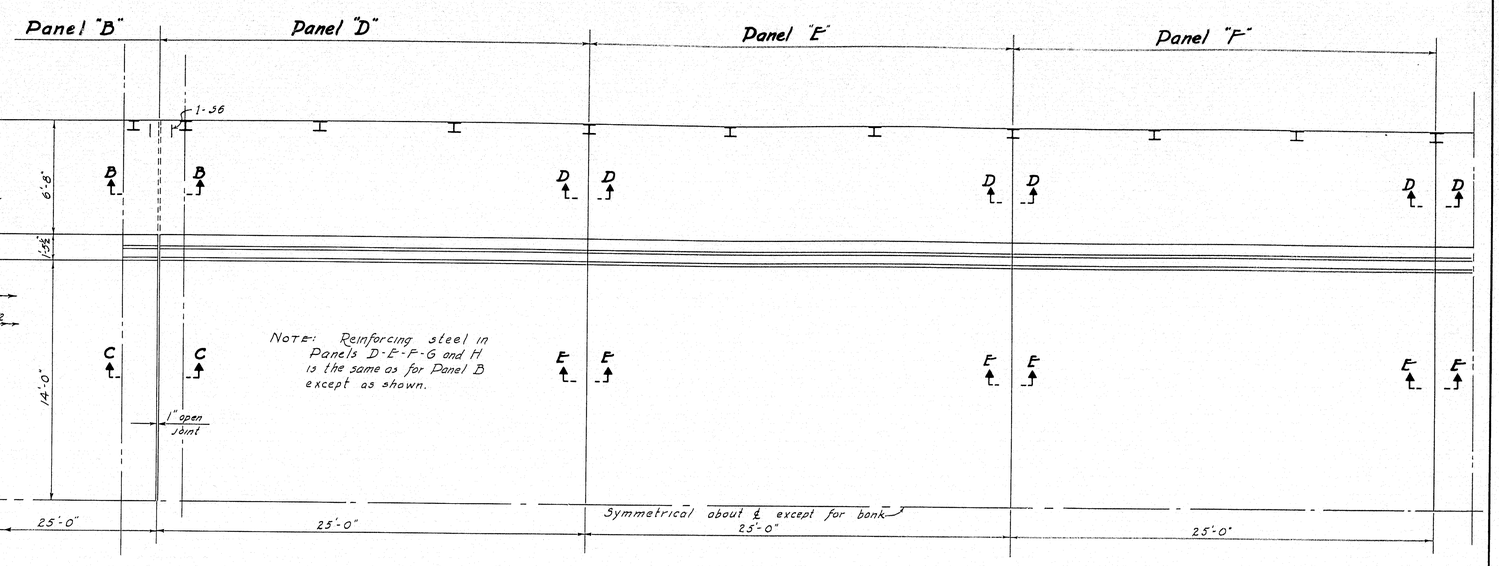
SHEET 12 OF 19 AUGUSTA, MAINE JAN. 1949

52-57

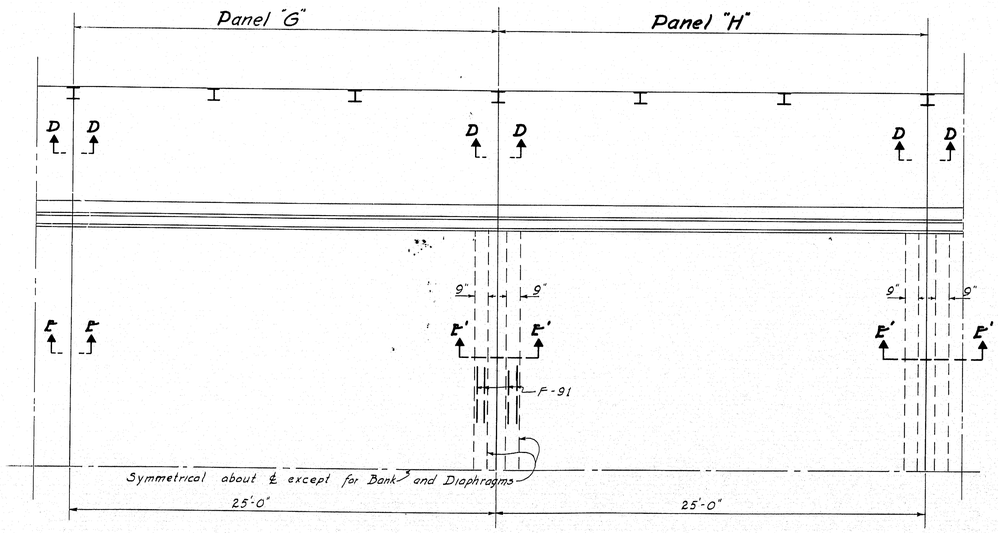


STATE DIV NO	STATE	FED PROJ NO	SHEET NO	TOTAL SHEETS
1	MAINE	FI.UR-389(2)	13	19





NOTE: Reinforcing steel in Panels D-E-F-G and H is the same as for Panel B except as shown.



NOTE: See sheets #15&16 for sections A-A, B-B, C-C, D-D, E-E, E'-E'

DESIGN - HAMILTON TRACE - FORTIER DETAIL - " CHECK - Allen	BRIDGE - 5196

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

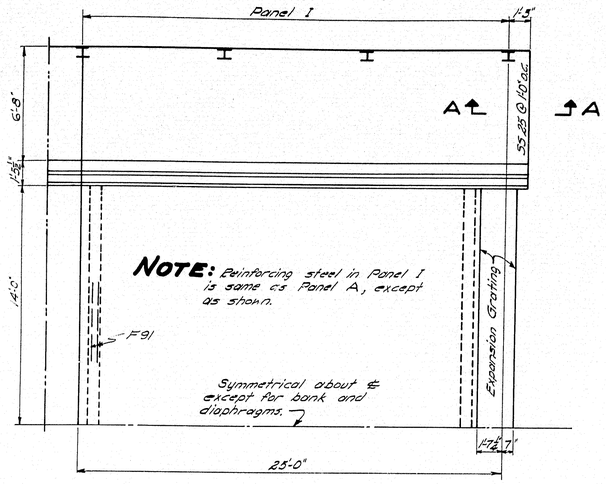
FLOOR DETAILS
PANELS - C-D-E-F-G-H

SHEET 13 OF 19 AUGUSTA, MAINE JAN. 1949

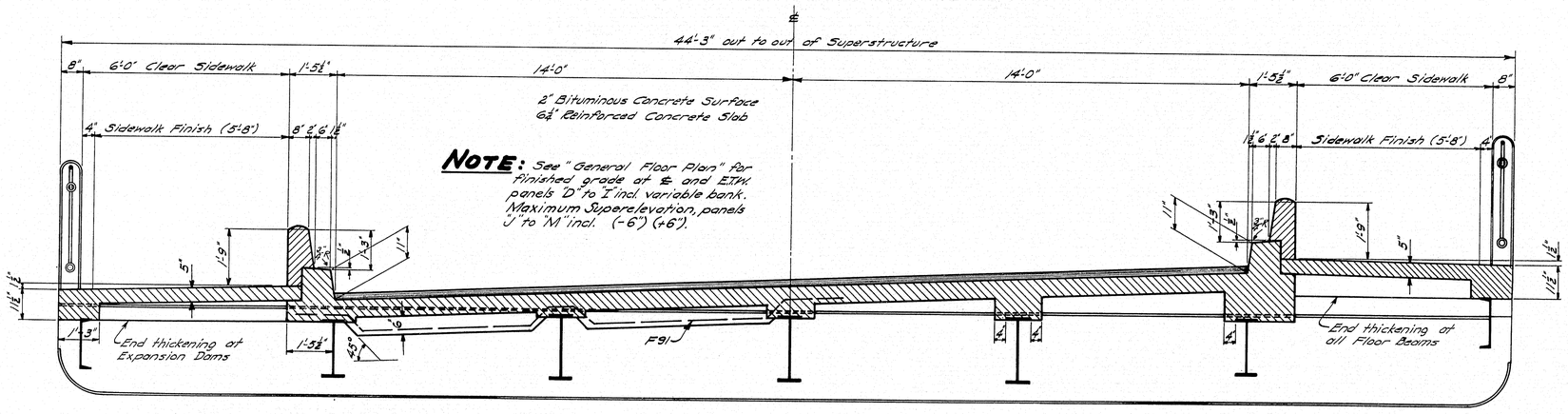
52-58

0 1 2 3 4 5 INCHES

P. R. A. DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	FF.UI-389(2)	14	19



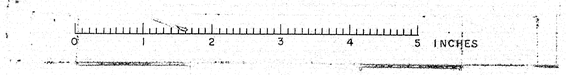
PLAN



SUPERELEVATED TRANSVERSE SECT.

Panels "D" to "M"

NOTE: See sheet #16 For Sect. A-A



DESIGN - HAMILTON TRACE - CLARK
DETAIL - " CHECK - CLA

BRIDGE - 5196

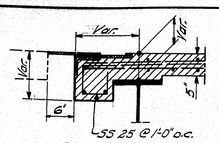
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

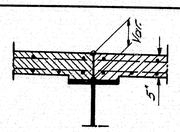
FLOOR DETAILS - PANEL No. I
SUPERELEVATED TRANSVERSE SECTION
SHEET 14 OF 19 AUGUSTA, MAINE JAN. 1949

52-59

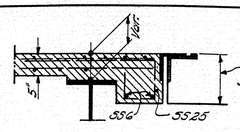
P. R. A. DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	F.(U)I-3892(2)	15	19



SECT. A-A

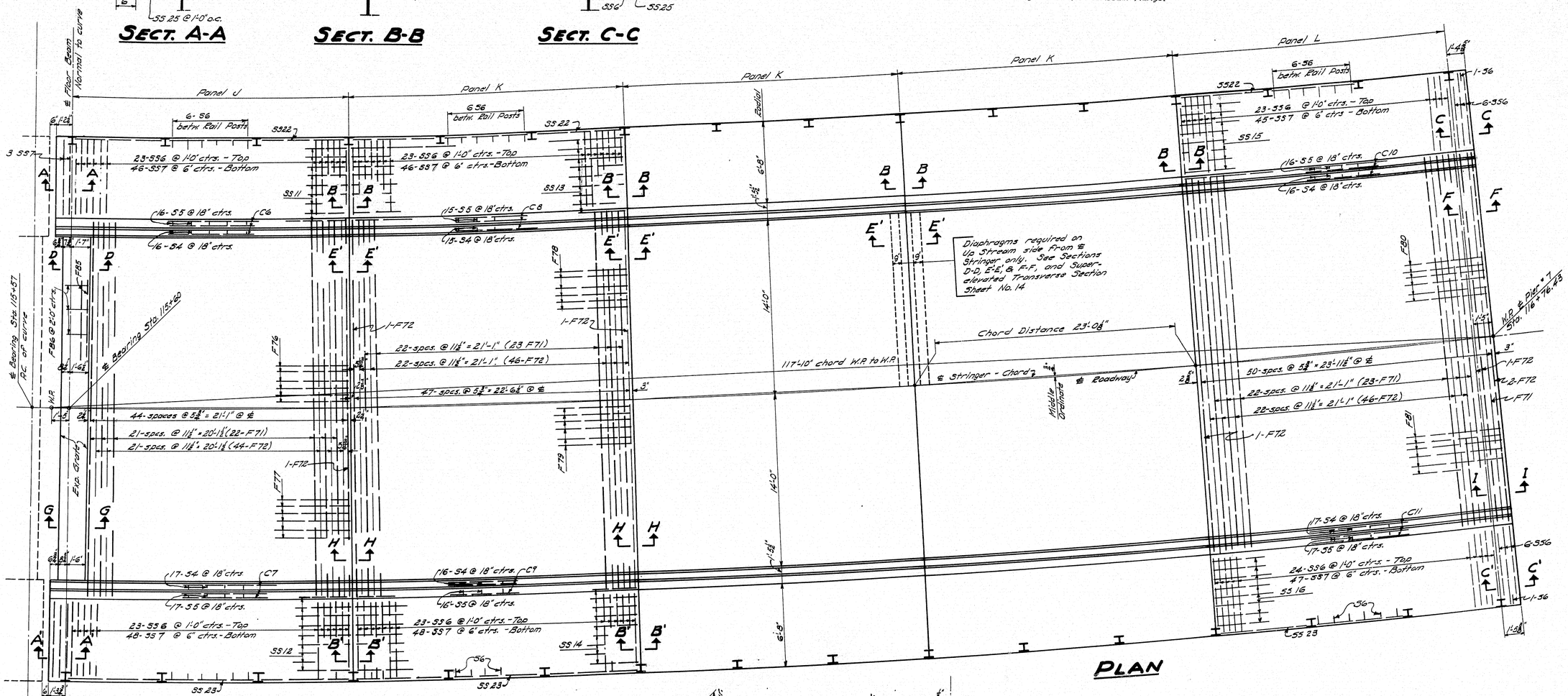


SECT. B-B

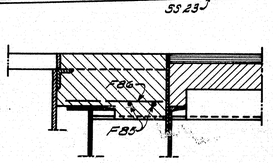


SECT. C-C

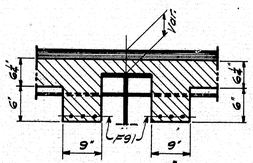
NOTE: At Expansion Joints shown in Sections A-A & C-C, the anchor lugs of Expansion Dams are to be bent in the field as necessary to clear the beam flange.



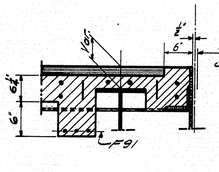
PLAN



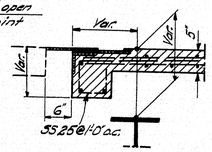
SECT. G-G



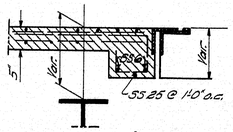
SECT. E'-E'



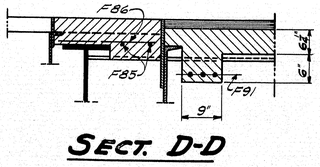
SECT. F-F



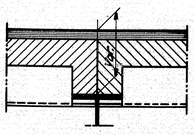
SECT. A'-A'



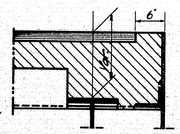
SECT. C'-C'



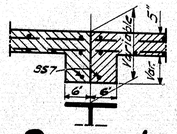
SECT. D-D



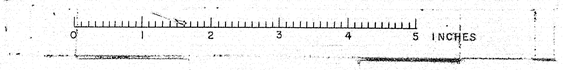
SECT. H-H



SECT. I-I



SECT. B'-B'



DESIGN - HAMILTON TRACE - CLARK
DETAIL - " CHECK - [illegible] BRIDGE - 5196

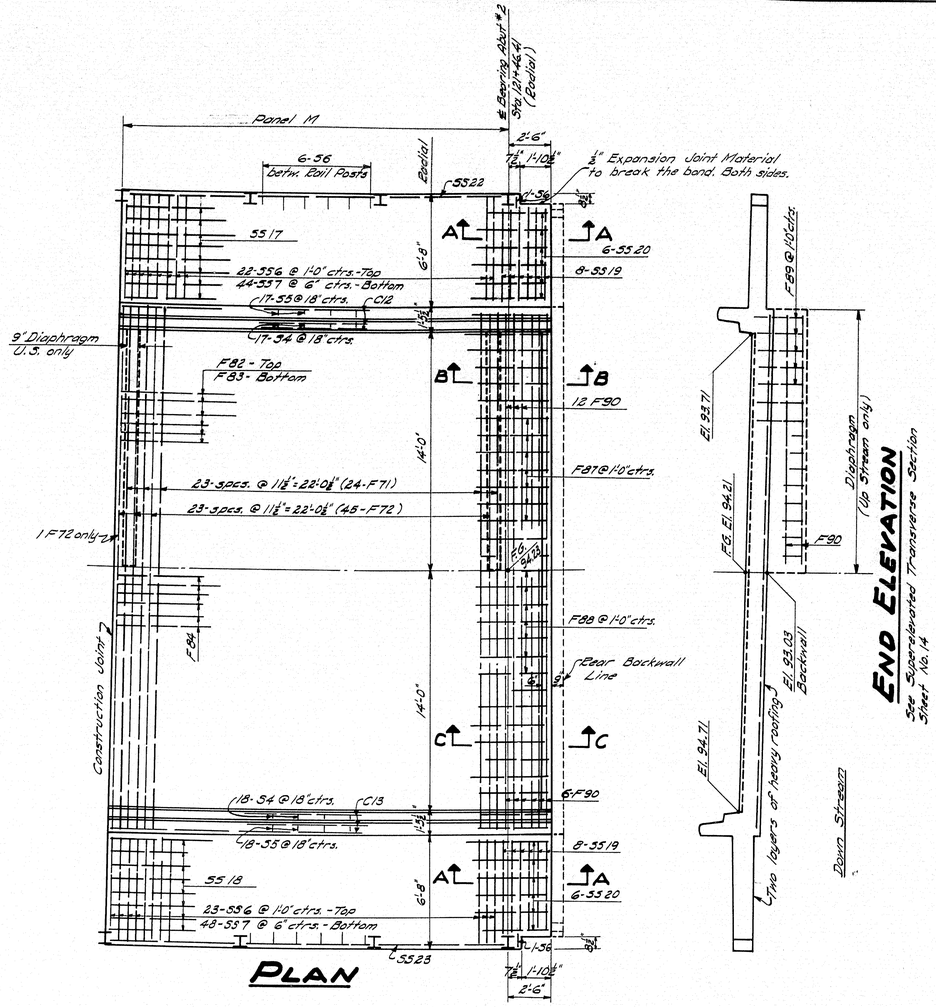
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

FLOOR DETAILS
SPAN No. 7 PANELS-J-K-L
SHEET 15 OF 19 AUGUSTA, MAINE. JAN. 1949

52-60

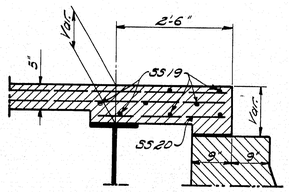
P. R. A. DIV. NO	STATE	FED AID PROJ. NO	SHEET NO.	TOTAL SHEETS
1	MAINE	FI-01-389(2)	16	19



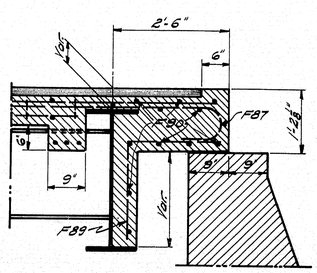
PLAN

END ELEVATION

See Superelevated Transverse Section Sheet No. 14

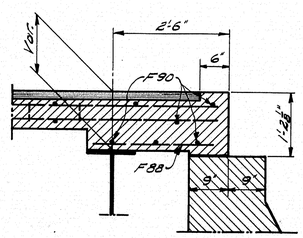


SECT. A-A



SECT. B-B

Up Stream half of floor only



SECT. C-C

DESIGN – HAMILTON TRACE – CLARK	
DETAIL – " CHECK –	BRIDGE – 5196

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

FLOOR DETAILS
PANEL – "M"

SHEET 16 OF 19 AUGUSTA, MAINE JAN. 1949

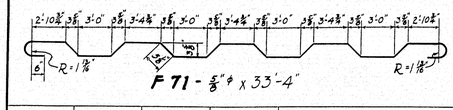
52-61

0 1 2 3 4 5 INCHES

P.R.A. DIV NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	FLUI-3689(2)	17	19

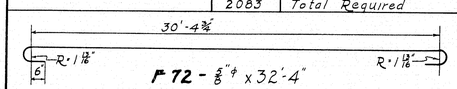
SPANS # 2-3-4-5-6-7-8-9-10-11

BENT BARS (ROADWAY)



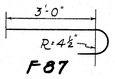
F 71 - ⅝"ϕ x 33'-4"

Panel	No. per Panel	No. Panels	Totals	Location
A	25	1	25	Roadway Slab
B	26	49	1274	"
C	23	2	46	"
D	26	1	26	"
E	26	1	26	"
F	26	1	26	"
G	26	1	26	"
H	26	1	26	"
I	25	1	25	"
J	22	1	22	"
K	23	15	345	"
L	24	8	192	"
M	24	1	24	"
			2083	Total Required

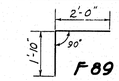


F 72 - ⅝"ϕ x 32'-4"

Panel	No. per Panel	No. Panels	Totals	Location
A	48	1	48	Roadway Slab
B	52	49	2548	"
C	44	2	88	"
D	52	1	52	"
E	52	1	52	"
F	52	1	52	"
G	52	1	52	"
H	52	1	52	"
I	48	1	48	"
J	45	1	45	"
K	48	15	720	"
L	51	8	408	"
M	45	1	45	"
			4210	Total Required



F 87



F 89

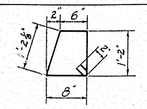
F 91

Mark	No.	Size	Length	Location
F87	15	½"ϕ	4'-8"	Panel "M" Span # 11
F89	15	"	3'-10"	" " "
F91	165	⅜"ϕ	17'-5"	Panels "G" to "M" (Diaphragms)

STRAIGHT BARS (ROADWAY)

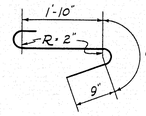
Mark	No. per panel	Size	Length	Panel	No. Panels	Totals	Location
F 73	48	½"ϕ	23'-4"	A	1	48	Roadway Slab
F 74	"	"	24'-10"	B	49	2352	"
F 75	"	"	21'-10"	C	2	96	"
F 74	"	"	24'-10"	D	1	48	"
F 74	"	"	24'-10"	E	1	48	"
F 74	"	"	24'-10"	F	1	48	"
F 74	"	"	24'-10"	G	1	48	"
F 74	"	"	24'-10"	H	1	48	"
F 73	"	"	23'-4"	I	1	48	"
F 76	24	"	21'-0"	J	1	24	"
F 77	24	"	21'-4"	J	1	24	"
F 78	24	"	22'-6"	K	15	360	"
F 79	24	"	22'-10"	K	15	360	"
F 80	24	"	23'-10"	L	8	192	"
F 81	24	"	24'-2"	L	8	192	"
F 82	12	"	24'-9"	M	1	12	"
F 83	12	"	21'-6"	M	1	12	"
F 84	24	"	25'-0"	M	1	24	"
F 85	2	½"ϕ	30'-8"	A	1	2	Roadway Slab at Gratings
F 86	16	"	1'-10"	A	1	16	"
F 83	2	"	30'-8"	C	2	4	"
F 86	16	"	1'-10"	C	2	32	"
F 85	2	"	30'-8"	I	1	2	"
F 86	16	"	1'-10"	I	1	16	"
F 83	2	"	30'-8"	J	1	2	"
F 86	16	"	1'-10"	J	1	16	"
F 88	16	½"ϕ	2'-6"	M	1	16	Roadway Slab
F 90	18	"	15'-2"	M	1	18	"

BENT BARS (SIDEWALK AND CURBS)



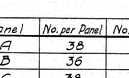
S4 - ⅜"ϕ x 3'-10"

Panel	No. per Panel	No. Panels	Totals	Location
A	36	1	36	Curbs
B	34	49	1666	"
C	34	2	68	"
D	34	1	34	"
E	34	1	34	"
F	34	1	34	"
G	34	1	34	"
H	34	1	34	"
I	36	1	36	"
J	33	1	33	"
K	31	15	465	"
L	33	8	264	"
M	35	1	35	"
			2773	Total Required



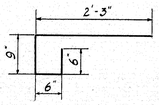
S5 - ⅜"ϕ x 4'-1"

Panel	No. per Panel	No. Panels	Totals	Location
A	36	1	36	Curbs
B	34	49	1666	"
C	34	2	68	"
D	34	1	34	"
E	34	1	34	"
F	34	1	34	"
G	34	1	34	"
H	34	1	34	"
I	36	1	36	"
J	33	1	33	"
K	31	15	465	"
L	33	8	264	"
M	35	1	35	"
			2773	Total Required



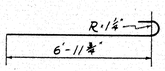
S6 - ⅜"ϕ x 3'-10"

Panel	No. per Panel	No. Panels	Totals	Location
A	38	1	38	Sidewalk Fascia
B	36	49	1774	" 10 Extra @ Expansion Jts.
C	38	2	76	"
D	38	1	38	"
E	36	1	36	"
F	36	1	36	"
G	36	1	36	"
H	36	1	36	"
I	38	1	38	"
J	38	1	38	"
K	36	15	540	"
L	38	8	304	"
M	38	1	38	"
			3028	Total Required



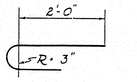
S325 - ½"ϕ x 4'-0"

Panel	No. per Panel	No. Panels	Total	Location
I	14	1	14	Sidewalks
J	14	1	14	"
L	14	8	112	"
			140	Total Required



S37 - ½"ϕ x 7'-10"

Panel	No. per Panel	No. Panels	Totals	Location
A	104	1	104	Sidewalk Slab U.S. & D.S.
B	98	49	4802	"
C	100	2	200	"
D	98	1	98	"
E	98	1	98	"
F	98	1	98	"
G	98	1	98	"
H	98	1	98	"
I	104	1	104	"
J	100	1	100	"
K	94	15	1410	"
L	92	8	736	"
M	92	1	92	"
			8038	Total Required



S324 - ½"ϕ x 4'-2"

Panel	No. per Panel	No. Panels	Totals	Location
A	14	1	14	Sidewalk Slab U.S. & D.S. at Ends
B	14	5	70	"
C	14	2	28	"
D	14	1	14	"
			126	Total Required

STRAIGHT BARS (SIDEWALK)

Mark	No. per Panel	Size	Length	Panel	No. Panels	Totals	Location
S5-6	54	½"ϕ	7'-1"	A	1	54	Sidewalk Slab U.S. & D.S.
"	50	"	"	B	49	2450	"
"	50	"	"	C	2	100	"
"	50	"	"	D	1	50	"
"	50	"	"	E	1	50	"
"	50	"	"	F	1	50	"
"	50	"	"	G	1	50	"
"	50	"	"	H	1	50	"
"	54	"	"	I	1	54	"
"	46	"	"	J	1	46	"
"	46	"	"	K	15	690	"
"	59	"	"	L	8	472	"
"	45	"	"	M	1	45	"
						4161	Total Required
C3	12	½"ϕ	26'-0"	A	1	12	Sidewalk Slab U.S. & D.S.
C4	12	"	24'-9"	B	49	588	"
C5	12	"	24'-6"	C	2	24	"
C4	12	"	24'-9"	D	1	12	"
C4	12	"	24'-9"	E	1	12	"
C4	12	"	24'-9"	F	1	12	"
C4	12	"	24'-9"	G	1	12	"
C4	12	"	24'-9"	H	1	12	"
C3	12	"	26'-0"	I	1	12	"
C6	6	"	23'-6"	J	1	6	Sidewalk Slab U.S.
C7	6	"	24'-3"	J	1	6	" " D.S.
C8	6	"	22'-6"	K	15	90	" " U.S.
C9	6	"	23'-0"	K	15	90	" " D.S.
C-10	6	"	23'-10"	L	8	48	" " U.S.
C-11	6	"	24'-5"	L	8	48	" " D.S.
C-12	6	"	25'-0"	M	1	6	" " U.S.
C-13	6	"	25'-6"	M	1	6	" " D.S.

Mark	No. per Panel	Size	Length	Panel	No. Panels	Totals	Location
S3 8	20	½"ϕ	26'-0"	A	1	20	Sidewalk Slab U.S. & D.S.
S3 9	20	"	24'-9"	B	49	980	"
S5-10	20	"	24'-6"	C	2	40	"
S5 9	20	"	24'-9"	D	1	20	"
S5 9	20	"	24'-9"	E	1	20	"
S3 9	20	"	24'-9"	F	1	20	"
S5 9	20	"	24'-9"	G	1	20	"
S5 9	20	"	24'-9"	H	1	20	"
S3 8	20	"	26'-0"	I	1	20	"
S5-11	10	"	23'-6"	J	1	10	" U.S.
S5-12	10	"	24'-3"	J	1	10	" D.S.
S5-13	10	"	22'-3"	K	15	150	" U.S.
S5-14	10	"	23'-0"	K	15	150	" D.S.
S5-15	10	"	23'-8"	L	8	80	" U.S.
S5-16	10	"	24'-6"	L	8	80	" D.S.
S5-17	10	"	24'-6"	M	1	10	" U.S.
S5-18	10	"	25'-3"	M	1	10	" D.S.
S5-19	16	"	6'-3"	M	1	16	" U.S.
S5-20	12	"	2'-9"	M	1	12	" D.S.
S5-21	12	½"ϕ	8'-2"	A	1	12	Sidewalk Slab U.S. & D.S.
"	12	"	"	B	49	588	"
"	12	"	"	C	2	24	"
"	12	"	"	D	1	12	"
"	12	"	"	E	1	12	"
"	12	"	"	F	1	12	"
"	12	"	"	G	1	12	"
"	12	"	"	H	1	12	"
"	12	"	"	I	1	12	"
S5-22	6	"	7'-4"	J	1	6	" U.S.
S5-23	6	"	7'-8"	J	1	6	" D.S.
S5-22	6	"	7'-4"	K	15	90	" U.S.
S5-23	6	"	7'-8"	K	15	90	" D.S.
S5-22	6	"	7'-4"	L	8	48	" U.S.
S5-23	6	"	7'-8"	L	8	48	" D.S.
S5-22	6	"	7'-4"	M	1	6	" U.S.
S5-23	6	"	7'-8"	M	1	6	" D.S.

NOTE: Dimensions to ℄ of steel.

DESIGN - HAMILTON TRACE - FORTIER
DETAIL - " CHECK - Allen
BRIDGE - 5196

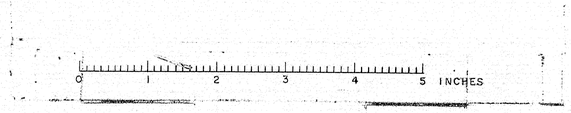
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

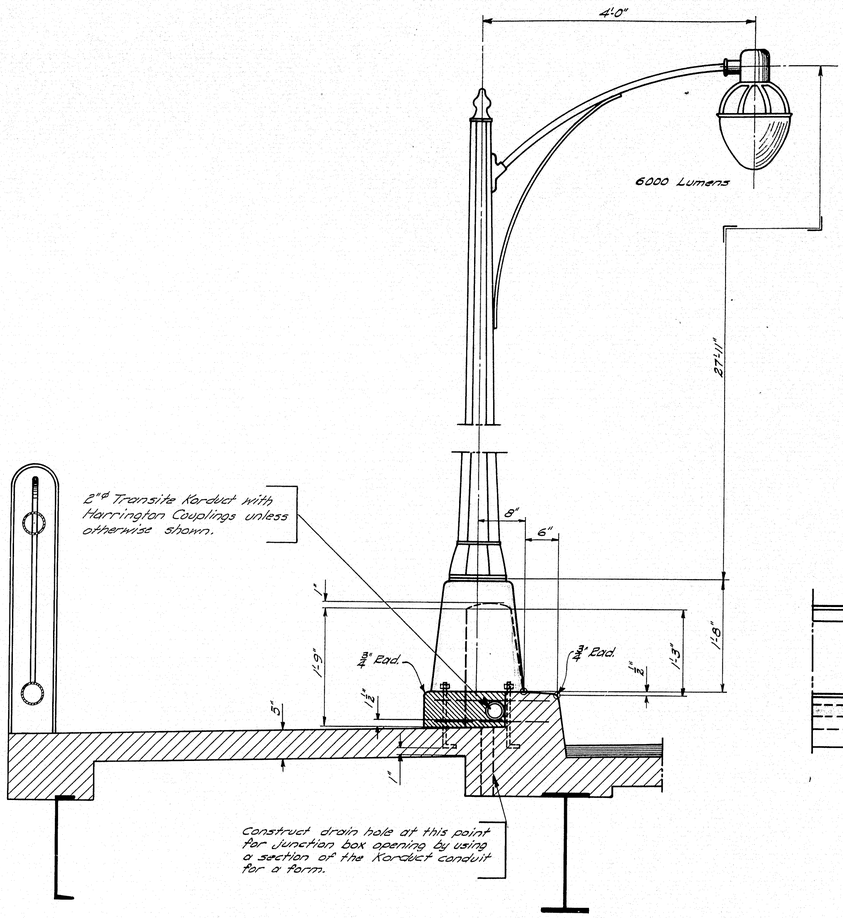
REINFORCING STEEL
SPANS-2-3-4-5-6-7-8-9-10-11
PANELS-A-B-C-D-E-F-G-H-I-J-K-L-M

SHEET 17 OF 19 AUGUSTA, MAINE JAN. 1949

52-62



P. R. A. DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
I	MAINE	FI,UI-389(2)	18	19

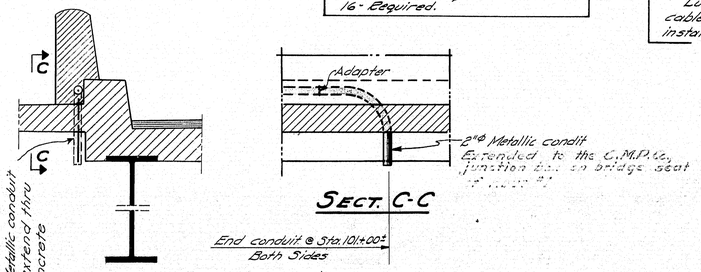


SECTION A-A

See sheet No. 9 for location of lights

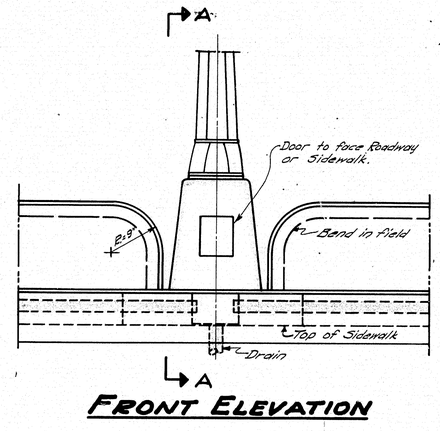
Union Metal No. 6401-Y-74 single light Octaflute standard, or approved equal. 16- Required.

NOTE: Base, standard and bracket to be furnished by the State and installed by the Contractor.
Luminaire transformer and cable to be furnished and installed by others.

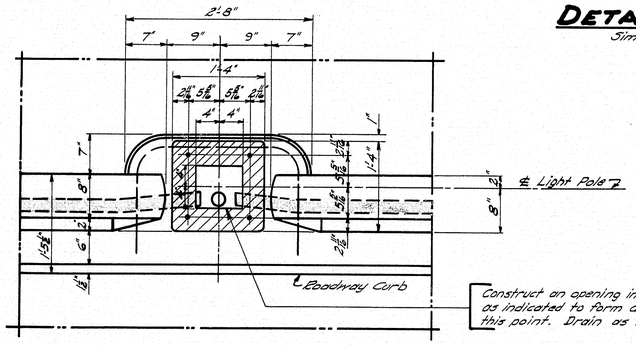


SECT. C-C

SPAN No. 1.



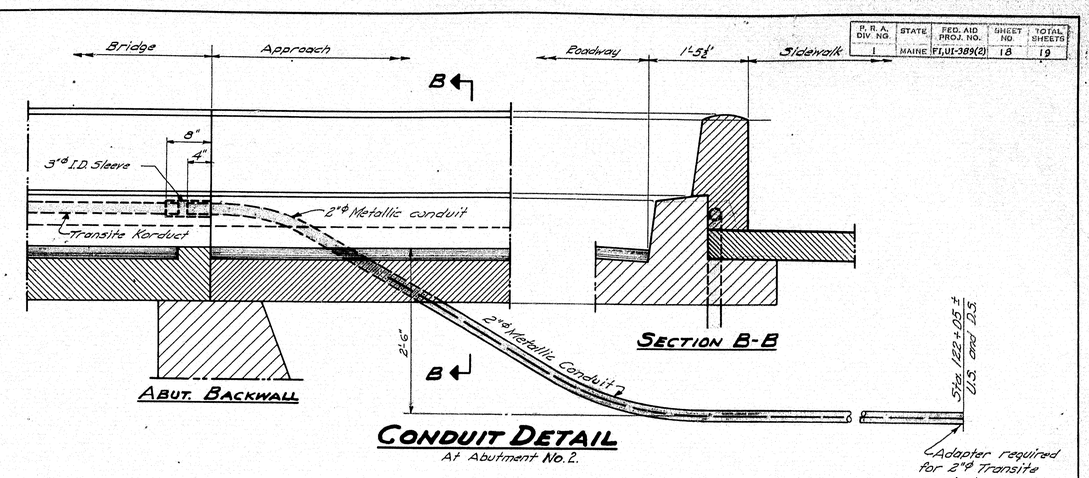
FRONT ELEVATION



Construct an opening in concrete base as indicated to form a junction box at this point. Drain as noted.

PLAN

Curb steel to be bent, cut or omitted as required to construct opening for light standard.
Concrete base for light standard to be cast with roadway curb.

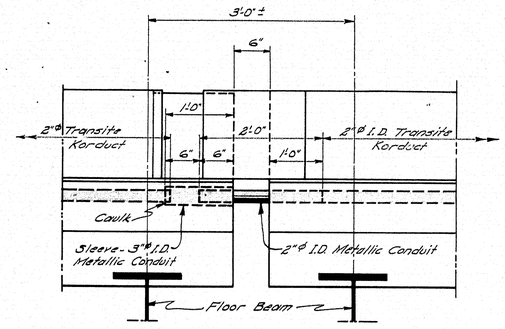


ABUT. BACKWALL

SECTION B-B

CONDUIT DETAIL

At Abutment No. 2.



DETAIL AT EXPANSION JOINTS

Similar at 1" open joints and at Abutment

DESIGN - HAMILTON TRACE - CLARK
DETAIL - " CHECK - G.V.A.
BRIDGE - 5196

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

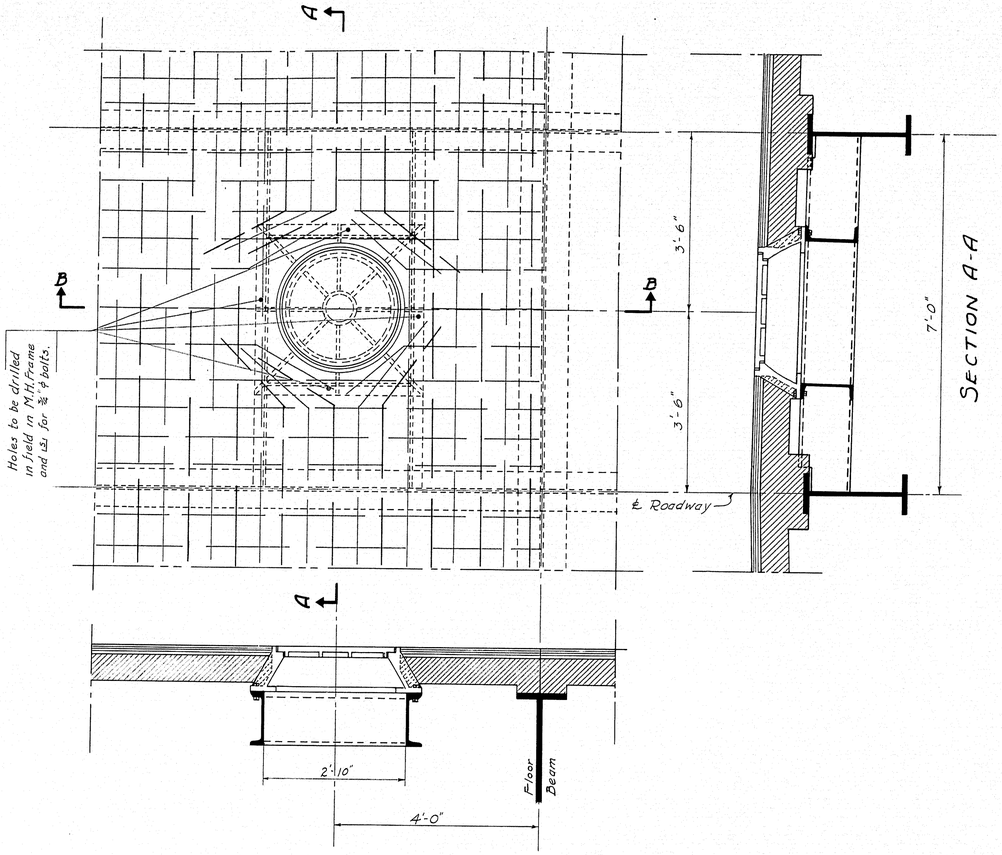
LIGHTING DETAILS

SHEET 18 OF 19 AUGUSTA, MAINE FEB. 1949

52-63

0 1 2 3 4 5 INCHES

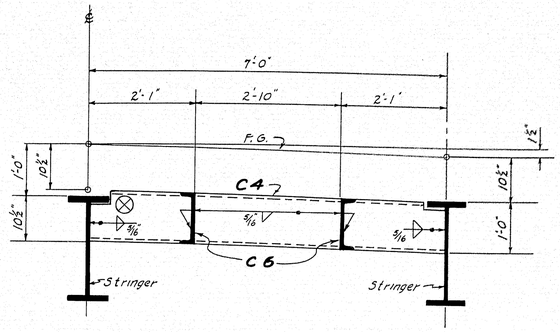
P. R. A. DIV. NO.	STATE	F.E.D. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	FI,UI-389(2)	19	19



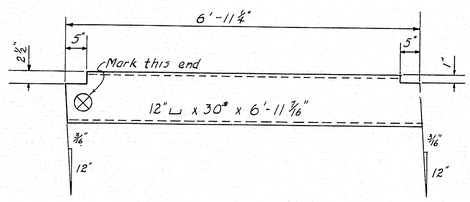
SECTION A-A

SECTION B-B

NOTE: Cut and bend Reinforcing Steel as indicated to clear Manhole Frame
Central Maine Power Co. Standard Manhole Frame and Cover 26" opening.
6 - Required.



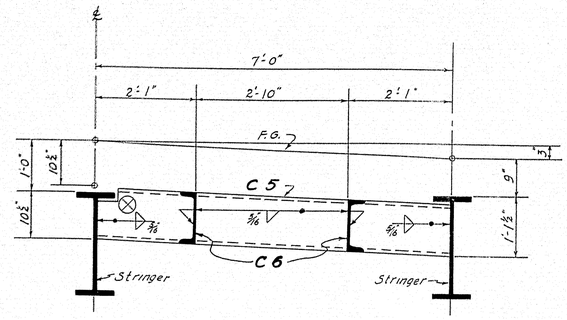
TRANSVERSE SECTION
at
PANEL "B" SPAN # 2
" " - 3
" - " 4
" " " 5



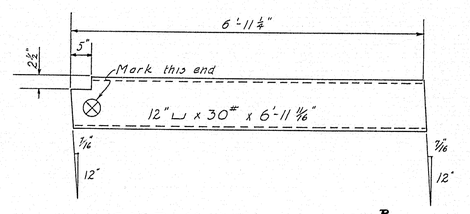
C.M.P. M.H. SUPPORT $C4^R$
$C4^R$ as shown
$C4^L$ opp. hand

BILL of MATERIALS			
Mark	No.	Description	Remarks
$C4^R$	4	12" ⊔ x 30# x 6'-11 7/8"	Shop Work - as shown
$C4^L$	4	Do	" " " "
$C5^R$	2	12" ⊔ x 30# x 6'-11 7/8"	" " " "
$C5^L$	2	Do	" " " "
C6	12	12" ⊔ x 30# x 2'-10"	No Shop work

Manhole Frames, Covers and Struct. Steel Supports not part of this Contract; to be Furnished and Erected by others.



TRANSVERSE SECTION
at
PANEL "I" SPAN # 6
" "L" " 9



C.M.P. M.H. SUPPORT $C5^R$
$C5^R$ as shown
$C5^L$ opp. hand

NOTE:
See Sheet # 9 for Location of Manholes

DESIGN - HAMILTON TRACE - FORTIER
DETAIL - " CHECK - Allen
BRIDGE - 5196

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

AUGUSTA BRIDGE
OVER THE
KENNEBEC RIVER
IN THE CITY OF
AUGUSTA
KENNEBEC COUNTY

C. M. P. Co. - MANHOLE SUPPORT DETAILS

SHEET 19 OF 19 AUGUSTA, MAINE JAN. 1949

52-64

0 1 2 3 4 5 INCHES

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SPECIFICATIONS

DESIGN: AASHTO Standard Specifications for Highway Bridges, 17th Edition 2002.

DESIGN LOADING

Live Load ..... HS - 20

TRAFFIC DATA

Current (2005) AADT	24780
Future (2025) AADT	28735
DHV - % of AADT	9
Design Hour Volume	2586
% Heavy Trucks (AADT)	4
% Heavy Trucks (DHV)	3
Directional Distribution (DHV)	50
18 kip Equivalent P 2.0	1074
18 kip Equivalent P 2.5	1024
Design Speed (mph)	35

MATERIALS

Concrete (Unless noted otherwise)	Class "LP"
Concrete	f ' c = 5075 psi
Reinforcing Steel	ASTM A615, Grade 60
Structural Steel:	ASTM A709, Grade 36 Unless Noted Otherwise
High Strength Bolts	ASTM A325, Type 1, Galv.
Steel Grid	Grade 50

BASIC DESIGN STRESSES

Concrete	f 'c = 5,075 psi
Reinforcing Steel	f y = 60,000 psi
Structural Steel:	
ASTM A 709, Grade 50	F y = 50,000 psi
ASTM A 709, Grade 36	F y = 36,000 psi
ASTM A 325	F μ = 120,000 psi

UTILITIES

Central Maine Power Company	Verizon
Maine Central Railroad	Adelphia

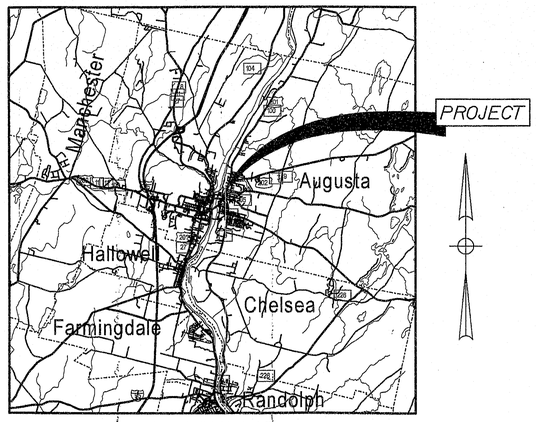
MAINTENANCE OF TRAFFIC

Maintain two lanes, two-way traffic during peak hours and one lane closure during off peak hours (nights and weekends).Ref. Special Provisions.

Close Bridge and install signs as directed to complete the "B" portion of the Work, Ref. Special Provisions.

CITY OF AUGUSTA
KENNEBEC COUNTY
MEMORIAL BRIDGE
OVER
KENNEBEC RIVER
US ROUTE 201 & 202, ROUTE 100

PROJECT No. BH-9327(100)X
PROJECT LENGTH .44 mi.
DECK REPLACEMENT
BRIDGE NO. 5196



LOCATION MAP

2 0 2 4

Scale In Miles

LIST OF DRAWINGS

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PIN 9327.10

BH-9327(100)X

134-223

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
APPROVED	
COMMISSIONER:	3/06/05
CHIEF ENGINEER:	03/08/05

STATE OF MAINE ERIC T. CALDERWOOD 9098 REGISTERED PROFESSIONAL ENGINEER

PROJECT INFORMATION	
PROGRAM	BRIDGE PROGRAM
PROJECT MANAGER	WAYNE FRANKHAUSER
DESIGNER	ERIC CALDERWOOD
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SIGNATURE 9099
P.E. NUMBER 9098
DATE 3/05

CITY OF AUGUSTA
MEMORIAL BRIDGE

TITLE SHEET

SHEET NUMBER 1 OF 46

Filename: ...\10\BRIDGE\MSTA\001_Title.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

Filename: ...\MAST\A\002_Estimate_&_Notes.dgn Username: Wayne.Frankhauser Date:3/11/2005 Division: HIGHWAY

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
107.51	PROSECUTION OF WORK INITIAL SCHEDULE	1	LS
107.53	PROSECUTION OF WORK BI-WEEKLY SCHEDULE	26	EA
202.10	REM EXIST SUPERSTRS PROP CONTR (3000 CY)	1	LS
202.17	REMOVE EXIST. STRUCTURAL CONCRETE (60 CY)	1	LS
202.203	PAVEMENT BUTT JOINTS	1300	SY
203.20	COMMON EXCAVATION	50	CY
203.25	GRANULAR BORROW	50	CY
304.10	AGGR SUBB COURSE - GRAVEL	50	CY
403.208	HOT MIX ASPHALT 12.5 MM - NOMINAL MAXIMUM SIZE SURFACE	100	TON
403.209	HOT MIX ASPHALT 9.5 MM - NOM. MAX. SIZE (SWKS, DRV. INCID)	30	TON
403.210	HOT MIX ASPHALT 9.5 MM - NOMINAL MAXIMUM SIZE	700	TON
403.213	HOT MIX ASPHALT 12.5 MM - NOMINAL MAXIMUM SIZE BASE	100	TON
403.324	MODIFIED BITUMINOUS CONCRETE SURFACE COURSE 9.5 MM	700	TON
409.15	BITUMINUS TACK COAT APPLIED	600	GAL
502.219	STRUCTURAL CONCRETE ABUT & RET WALL (50 CY)	1	LS
502.49	STRUCT.CONC. CURBS AND SW (500 CY)	1	LS
503.12	REINF STEEL, FAB & DEL	100000	LB
503.13	REINF STEEL, PLACING	100000	LB
504.701	STRUCTURAL STEEL FAB. AND DEL., ROLLED (263000 lbs)	1	LS
504.71	STRUCTURAL STEEL ERECTION (263000 lbs)	1	LS
504.73	REMOVE, MODIFY, AND RESET EXISTING STRUCTURAL STEEL	1	LS
504.8182	MODIFIED WELDED DECK DRAIN	1	LS
504.84	TRUSS PIN REPLACEMENT	1	LS
505.08	SHEAR CONNECTORS (115000 EA)	1	LS
507.0841	STEEL PIPE HAND RAIL (4200 LF)	1	LS
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE(7900 SY)	1	LS
515.21	PROT. COAT FOR CONC. SURF. (14,700SY w/conc. w.s. 6800SY w/o)	1	LS
518.51	REPAIR OF UPWARD FACING SURFACES	80	SF
518.60	REPAIR OF VERTICAL SURFACES < 7.9 IN	2300	SF
520.22	EXPANSION DEVICE - COMPRESSION SEAL	1	EA
521.23	EXPANSION DEVICE - FINGER JOINT	3	EA
521.32	FABRIC TROUGH - FINGER JOINT	3	EA
523.52	BEARING INSTALLATION	10	EA
523.5402	LAMINATED ELASTOMERIC BEARINGS - EXPANSION	10	EA
524.40	PROTECTIVE SHIELD	1	LS
526.51	PRECAST CONCRETE BARRIER RAILING (4300 LF)	1	LS
530.02	PREFABRICATED DECK PANELS	102200	SF
606.17	GUARDRAIL TYPE 3b - SINGLE RAIL	112.5	LF
606.1722	BRIDGE TRANSITION TYPE II	2	EA
606.265	TERMINAL END SINGLE RAIL - GALVANIZED	1	EA
606.35	GUARDRAIL DELINEATOR POSTS	6	EA
606.76	MODIFIED ECCENTRIC LOADER TERMINAL	1	EA
607.441	CHAIN LINK SAFETY FENCE (4200 LF)	1	LS
608.26	DETECTABLE WARNING DEVICES	16	SF
609.19	VERTICAL CURB-TYPE 2	58	LF
609.20	VERTICAL CURB-CIRCULAR-TYPE 2	10	LF
609.247	TERMINAL CURB-TYPE 2-7FT.	3	EA
609.38	RESET CURB TYPE 1	100	LF
610.08	PLAIN RIPRAP	141	CY
613.319	EROSION CONTROL BLANKET	282	SY
619.1401	EROSION CONTROL MIX	120	CY
620.58	EROSION CONTROL GEOTEXTILE	100	SY
626.21	METALLIC CONDUIT	5000	LF
627.711	WHITE OR YELLOW PAVEMENT MARKING LINE - PLAN QUANTITY	7100	LF
629.05	HAND LABOR, STRAIGHT TIME	200	HR
634.160	HIGHWAY LIGHTING	1	LS
638.01	EMBEDDED WORK IN STRUCTURES	1	LS
639.18	FIELD OFFICE TYPE A	1	EA
643.71	TRAFFIC SIGNAL MODIFICATIONS: CONY ST. - WILLOW ST.	1	LS
643.71	TRAFFIC SIGNAL MODIFICATION: BRIDGE ST. - WATER ST.	1	LS
643.71	TRAFFIC SIGNAL MODIFICATION: STATE ST. - BRIDGE ST.	1	LS
643.71	TRAFFIC SIGNAL MODIFICATION: STATE ST. - WINTHROP ST.	1	LS
643.90	TEMP. INTERCONNECT WIRE BETWEEN: WILLOW ST. & WINTHROP ST.	1	LS
652.39	WORKZONE TRAFFIC CONTROL	1	LS
652.41	CHANGEABLE MESSAGE SIGN	4	EA
652.70	TEMPORARY INTERSECTION MODIFICATIONS	1	LS
659.10	MOBILIZATION	1	LS
660.21	ON-THE-JOB TRAINING	5000	HR

GENERAL CONSTRUCTION NOTES

1. All Utility Facilities shall be adjusted by the respective Utilities unless otherwise noted.

2. For Easements, Construction Limits, and Right-Of-Way lines, refer to Right of Way Plan sheets.

3. During construction, the Road will be closed to Traffic the time period required to complete the B Portion of the Work.

4. Two Guardrail Delineator posts shall be installed at each leading Guardrail End and one at each trailing Guardrail End.

5. Extended-use Erosion Control Blanket, Seeded Gutters, Riprap Downspouts, and other Gutters lined with Stone Ditch protection shall be constructed after Paving and Shoulder work is completed, where it is apparent that Runoff will cause continual Erosion. Payment will be made under appropriate Contract items.

6. Protective Coating for Concrete Surfaces shall be applied to the following areas:
   All exposed Surfaces of Concrete Curbs and Sidewalks,
   Fascia down to Drip Notch,
   Concrete Wearing Surfaces,
   Concrete Traffic Railing,
   Top of Abutment Backwalls and to 1' below the top of Backwalls on the back side.
   All exposed surfaces of Pier No. 5 down to 1'-0" below the ground line.

7. Erosion Control Mix shall be substituted in those areas normally receiving Loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specification 619, Mulch. Payment will be made under Item 619.1401 Erosion Control Mix.

8. Bidders and Contractors may obtain a copy of the existing bridge plans by contacting the Project Manager. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations, which may have been made to the bridge during its life span.

9. The Contractor should note that the signs shown on the Detour Area Plan and In-Town Detour Plan, with the exception of the changeable message signs, and with the exception of specific modifications required and detailed on the temporary Traffic Control for Bridge Closure sheet, have been made and will be erected and maintained throughout the bridge closure by the Maine Department of Transportation. The Contractor must notify the Department a minimum of one month prior to the desired closure period with the exact time and date of the closure, to allow sufficient time for the Department to erect the signs.

10. The Contractor will be responsible for making the temporary changes required to the downtown area as detailed on the Temporary Traffic Control for Bridge Closure Plan. The Contractor will also be responsible for returning the downtown area to it's exact current configuration. Payment for making these modifications and returning the downtown area to it's current configuration shall be paid under item no. 652.70, Temporary Intersection Modifications.

11. The Paint on the existing bridge is Lead Based. The top flanges of the stringers are coated with lead paint. This paint will need to be removed in the immediate area where shear studs are to be welded, and in all other areas where the Contractor is required to work on the existing steel. The Contractor is responsible for removing this paint in accordance with all applicable regulations and special provisions. There will be no seperate payment for this work. The cost shall be considered incidental to the work requiring the paint removal.

12. Single lane closures with two way traffic controlled with flaggers shall be allowed during off-peak hours as defined within the special provisions.

13. The Contractor has the the option to choose a single wearing surface option for the final wearing surface on the bridge structure. The wearing surface options are as follows:

    a) Integral concrete wearing surface: must be placed at the same time the 1/2 filled grid deck is filled and shall be finished to an elevation 1 inch above the top of the grid. No seperate payment shall be made for this wearing surface, but all labor, equipment, and materials shall be considered incidental to item number 530.02, prefabricated deck panels. Should this be the contractors preferred option for a wearing course, item numbers 508.14, 403.210, 403.324 shall be unnecessary and will not be required or paid for.

    b) Should the contractor opt to use a high performance membrane with a 1 1/2 inch bituminous wearing course the grid shall be flush filled with class LP concrete as specified in section 530 of the special provisions, the membrane will be paid for under item number 508.14, high-performance membrane waterproofing, the bituminous wearing course shall be paid for under item number 403.210, and item number 403.324 will not be required or paid for.

    c) Should the contractor opt to use a 1 1/2 inch Roshphalt 50 wearing course the grid shall be flush filled with class LP concrete as specified in section 530 of the special provisions, the pavement will be paid for under item number 403.324, and item numbers 508.14 and 403.210 will not be required or paid for.

14. Existing Superstructure - Property of the Contractor shall include all deck and Barrier Concrete, All structural steel fascia channels with the exception of those in span 1, Removal of all connection angles, Intermediate channel diaphragms at rail post locations except those in span #1, and removal of all steel pedestrian railing.

15. Remove Existing Concrete shall include all abutment concrete to be removed as detailed on the pertinent abutment sheets, as well as all approach slab concrete on the East end and that portion of the approach slab that is to be removed on the West end as shown in the plan set, all concrete traffic barrier on the approaches, and all sidewalk to be removed on the approaches.

16. Rip Rap placed below drain downspouts shall have a thickness of 18" and plan dimensions of 7'x7' approximately. All Rip Rap shall be underlain with non-woven erosion control geotextile. Payment for riprap shall be considered payment for stockpiling & rehandling of all excavated material required for the installation of the Rip Rap, and all regrading of existing ground to form a neat apearance, shaped to drain, as directed by the Resident .

17. All girder splicing shown on the Girder Splicing sheet, and all work required to complete the girder splicing as described within the special provisions and depicted within the plan set including fabrication, delivery and erection of all materials incorporated into the work, and all consumables, labor, and equipment required in the process of performing the girder splicing shall be paid for under item no. 504.73, Remove, Modify, and Reset existing structural steel.

18. Apply Sika Lo-Mod 32, or approved equal, to grid fill concrete within 1'-0" of the face of the curb and directly underneath the sidewalk, immediately prior to the placement of sidewalk concrete.

19. Maine General Medical Center has some concern with the proximity of their ventilation equipment to the bridge. The contractor shall be especially prudent to work with the hospital and to ensure that adequate dust control is performed such that dust from construction related activities does not impact conditions inside the hospital.

20. All work described on the Fixed Pin Support Plan, Fixed Pin Support Details, and Truss Strengthening sheets shall be considered to be paid for under Item number 504.84, Truss Pin Replacement. This price shall include all work described within this planset including fabrication, delivery, materials, labor, and consumables required to successfully complete the work described on the Fixed Pin Support Plan, Fixed Pin Support Details, and Truss Strengthening sheets.

21. Top of Wings above Roadway Surface shown on Sheets 6 and 9 shall be given a Rubbed Finish as per Standard Specification.

134-224

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

PROJ. MANAGER	WLF		
DESIGN-DETAILED	ETC	DMS	2\23\06
CHECKED-REVIEWED		RKC	
DESIGN-DETAILED		RKC	
CHECKED-DETAILED		BAH	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

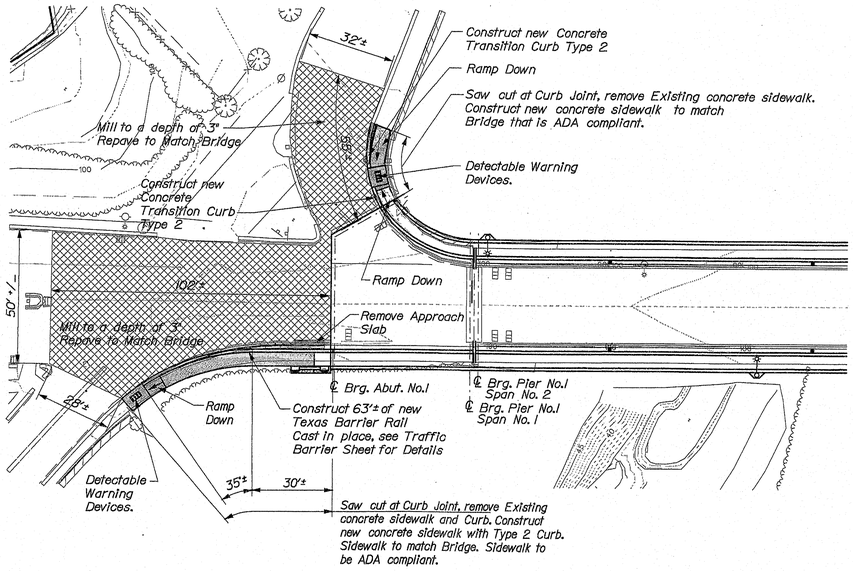
MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

ESTIMATED QUANTITIES

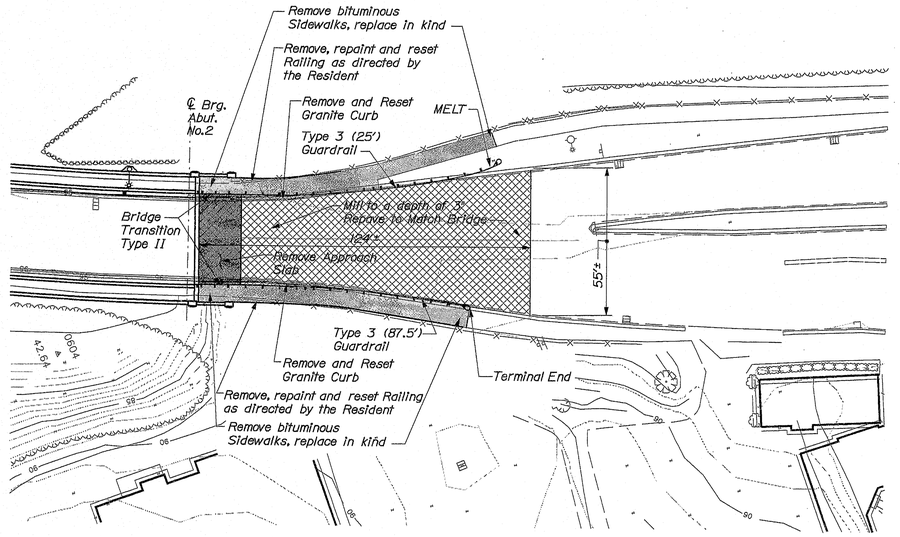
SHEET NUMBER

2

OF 46



WEST APPROACH



EAST APPROACH

NOTE:
Remove, Repaint and Reset Railing to be Incidental to 507.0841, Steel Pipe Hand Rail.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	ETC	2\23\05
CHECKED-REVIEWED		SIGNATURE
DESIGN2-DETAILED2	DMS	
DESIGN3-DETAILED3	RKC	P.E. NUMBER
REVISIONS 1	RKC	
REVISIONS 2	BJH	DATE
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

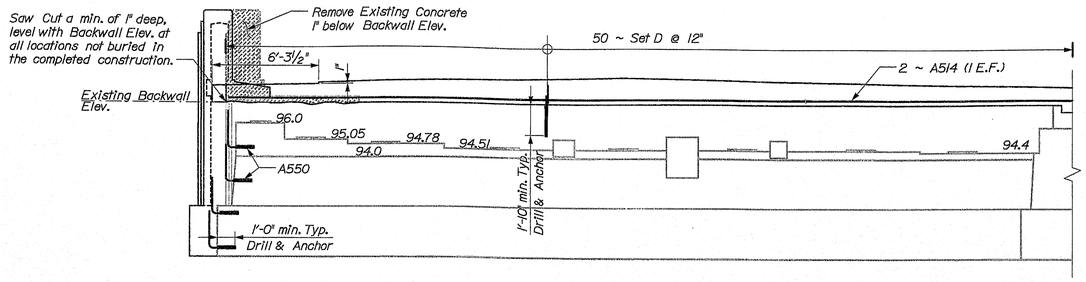
MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

GENERAL PLAN

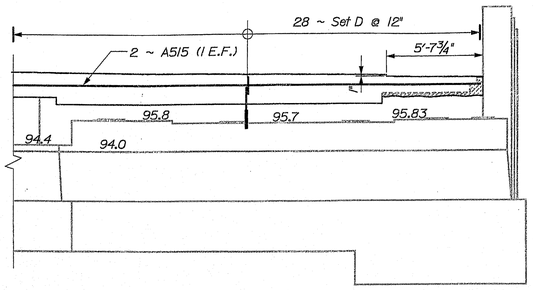
SHEET NUMBER
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OF 46

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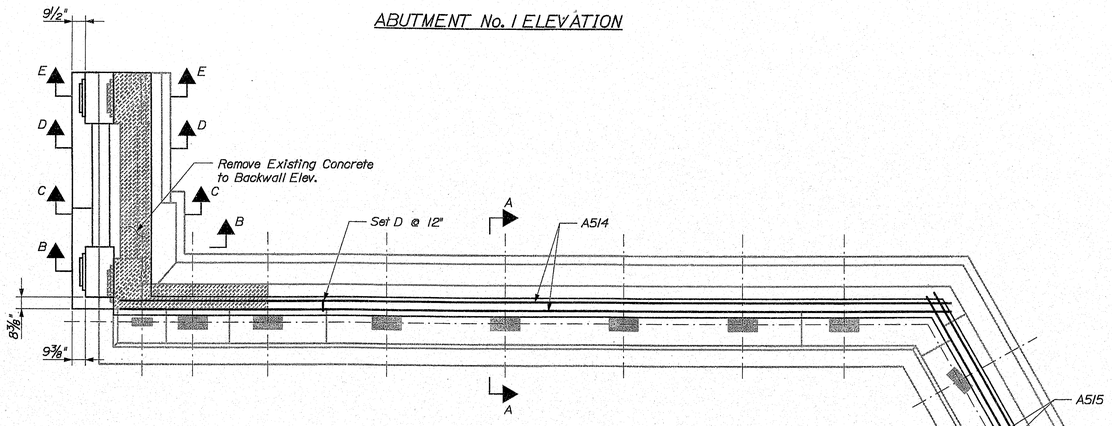
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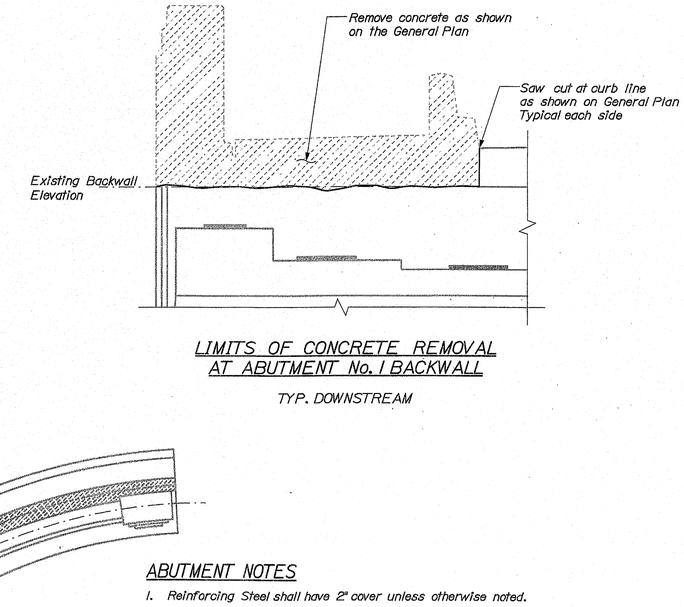
ABUTMENT No. 1 ELEVATION



ABUTMENT No. 1 ELEVATION

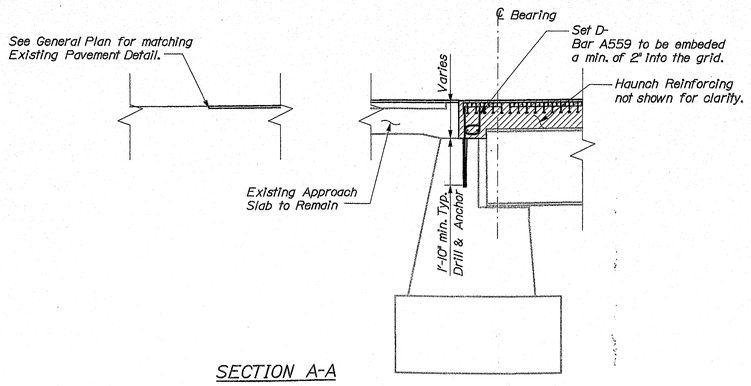


ABUTMENT No. 1 PLAN



LIMITS OF CONCRETE REMOVAL AT ABUTMENT No. 1 BACKWALL

TYP. DOWNSTREAM



SECTION A-A

APPROACH SLAB & TYP. ABUT. SECTION DETAIL

NOTE:
For Set D components refer to Abut. No. 1 Detail sheet.

ABUTMENT NOTES

1. Reinforcing Steel shall have 2" cover unless otherwise noted.
2. Cover Joints in accordance with Standard Detail 502(01).
3. Excavation required to construct widened Footing and Abutment Wings shall not be paid for directly, but will be considered incidental to related Concrete Items.
4. Abutments, Wings, and their Footings shall be backfilled with Granular Borrow.
5. All Drill and Anchoring will be 1'-0" min. Embedment unless other wise noted.
6. Protective Coating for Concrete surfaces shall be applied to the top of Abutment Backwalls and to 1' below the top of the Backwalls on the backside.
7. A minimum of 18" of Granular Borrow shall be placed in front of the Wings and shaped to direct water away from the Foundation Structure as directed by the Resident. 1'-0" of Rip Rap shall be placed over the disturbed area and shaped to drain and present a neat and orderly appearance. Payment for Granular Borrow and Rip Rap shall be made under appropriate Items.
8. Neoprene at Abutment No. 2 shall be either Polychloroprene or Natural Polyisoprene of 50±5 Shore a Durometer Hardness, and shall conform to the requirements of Div. 2, Section 18.2 of the AASHTO Standard Specifications for Highways and Bridges. Neoprene will not be paid for directly, but shall be considered incidental to related Contract Items.

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5196

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	ETC	
CHECKED-REVIEWED	DMS	2\23\05
DESIGN2-DETAILED2	RKC	
DESIGN3-DETAILED3	RKC	
REVISIONS 1	BJN	
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

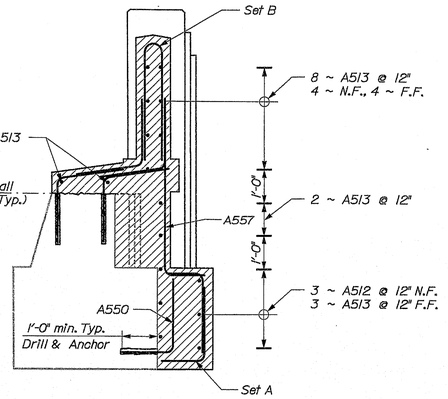
ABUTMENT No. 1

SHEET NUMBER

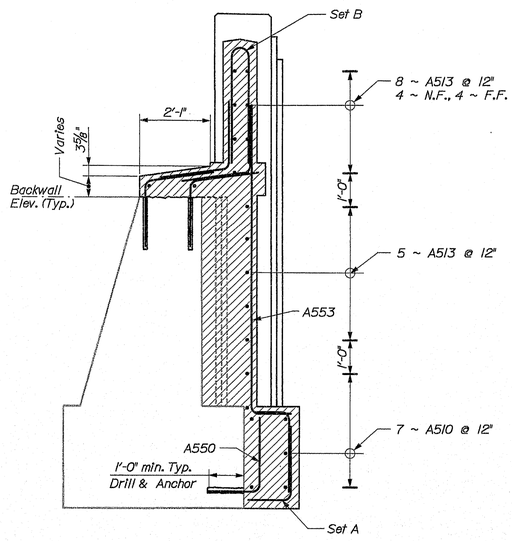
4

OF 46

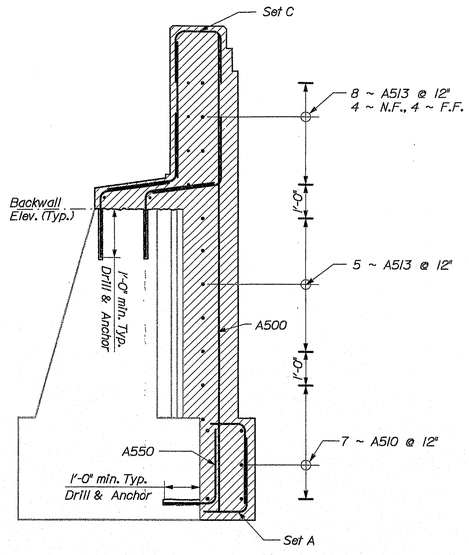
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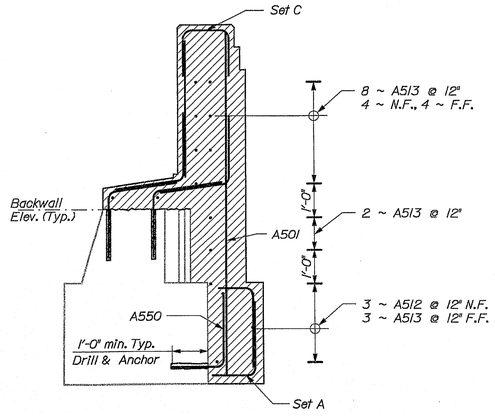
SECTION D-D



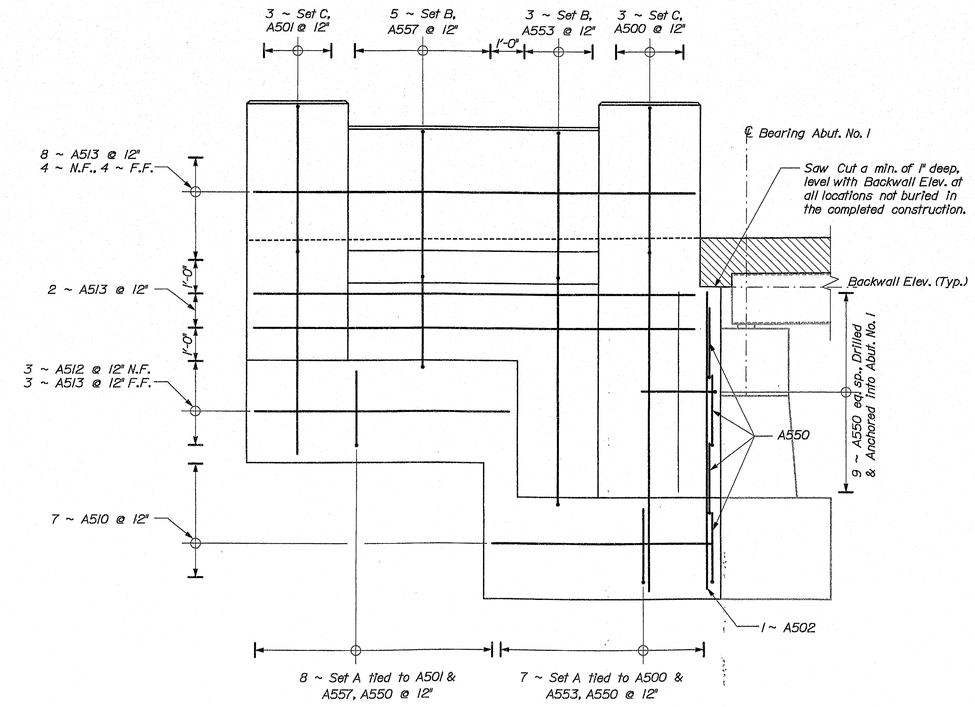
SECTION C-C



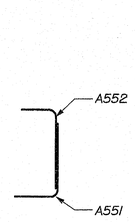
SECTION B-B



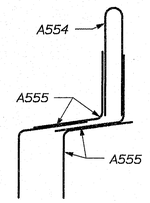
SECTION E-E



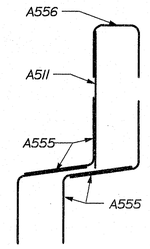
ABUTMENT No. 1 WING ELEVATION



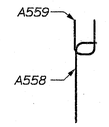
SET A



SET B



SET C



SET D

REBAR SETS	
Set A	1-A551, 1-A552
Set B	1-A554, 4-A555
Set C	1-A556, 1-A511, 4-A555
Set D	1-A558, 1-A559

134-227

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5186

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	ETC	2/23/05
CHECKED-REVIEWED	DMS	2/23/05
DESIGN-DETAILED2	RKC	
DESIGN-DETAILED3	RKC	
REVISIONS 1	BJM	
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

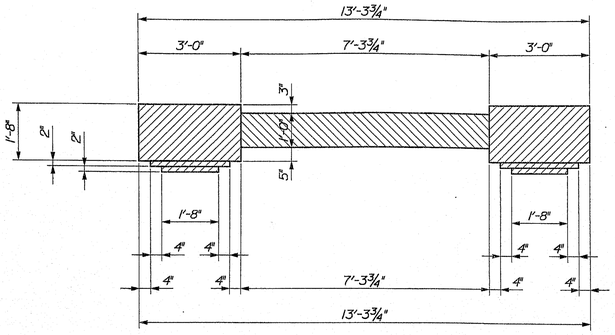
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SHEET NUMBER

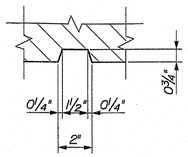
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OF 46

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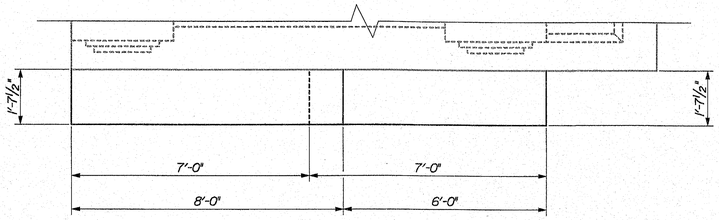


SECTION F-F

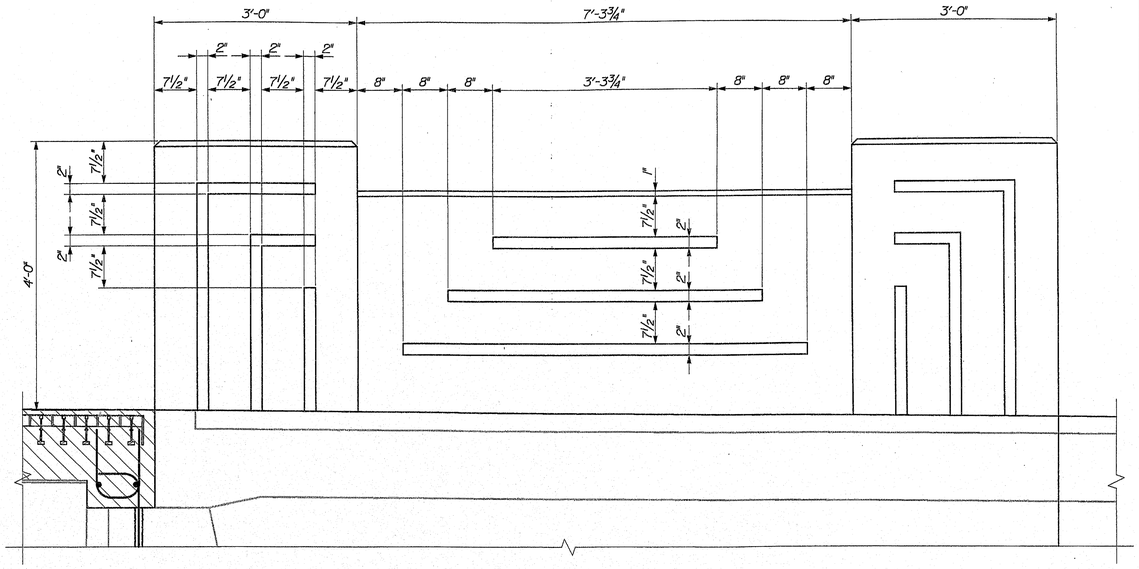


GROOVE DETAIL

Typ. Abut. No. 1 & 2

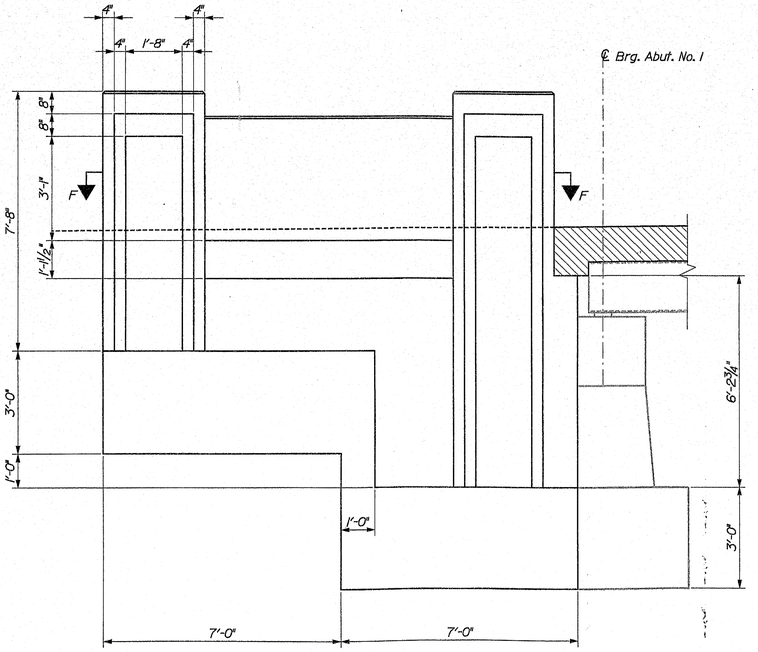


FOOTING PLAN

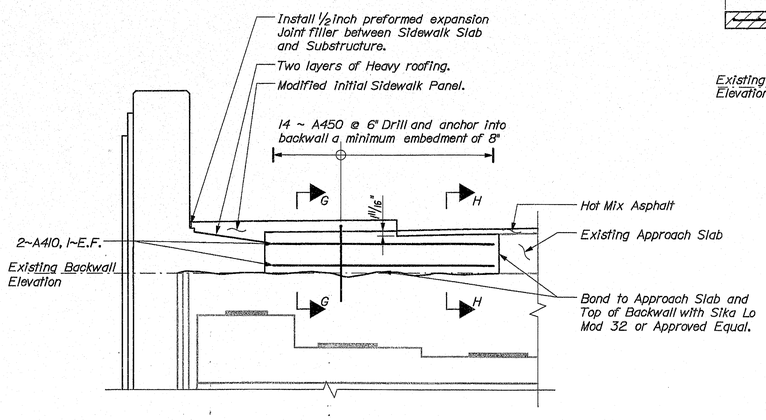


GROOVE PLAN

TRAVEL SIDE ELEVATION
OF CONCRETE POST AND RAIL

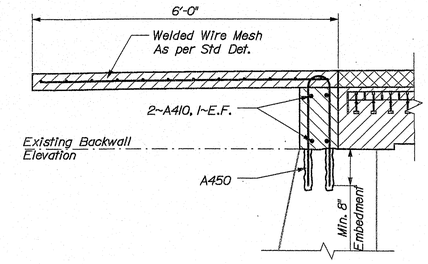


ABUT. No. 1 DOWNSTREAM
WING WALL ELEVATION

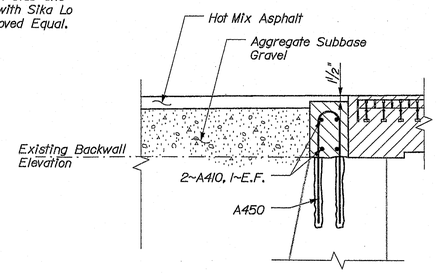


BACKWALL MODIFICATIONS AT ABUT #1

TYPICAL UPSTREAM AND DOWNSTREAM.
DOWNSTREAM SHOWN.



SECTION G-G



SECTION H-H

134-228

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5186

BRIDGE PLANS

	WLE	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	ETC	DMS	2/23/05
DESIGN-CHECKED		PWC	
DESIGNS-DETAILED		BJN	
DESIGNS-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

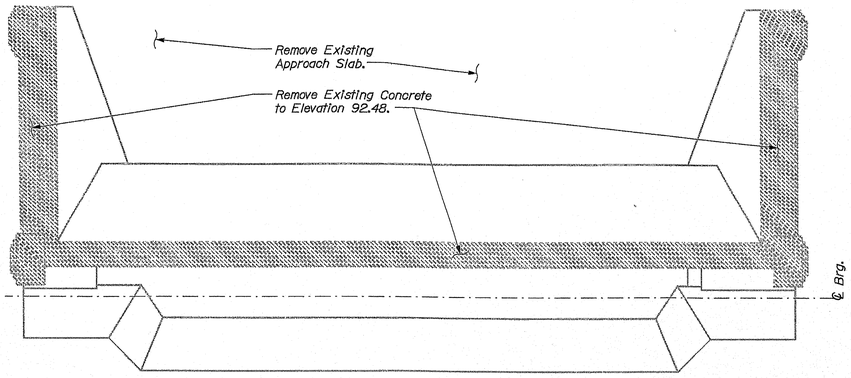
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SHEET NUMBER

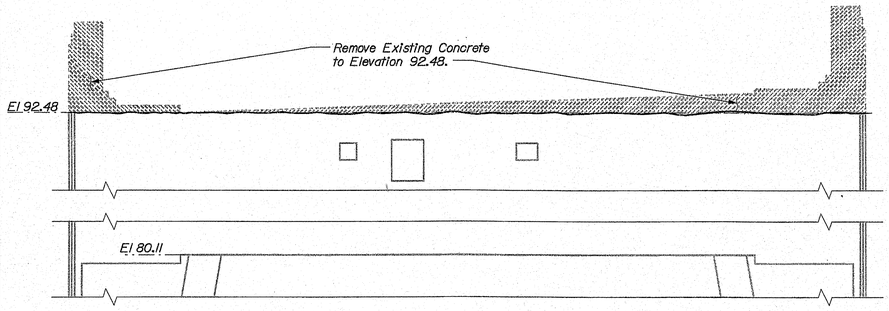
6

OF 46

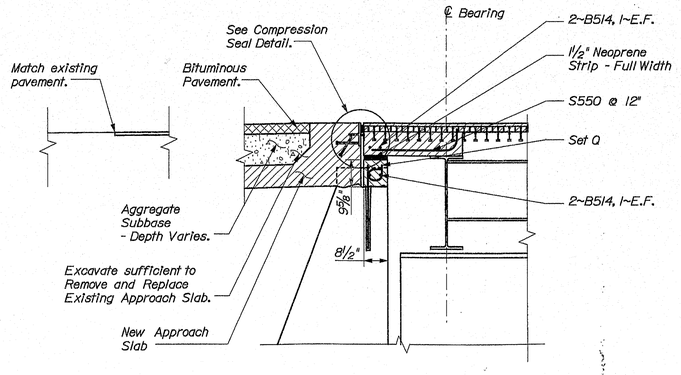
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ABUT. No. 2 EXISTING PLAN



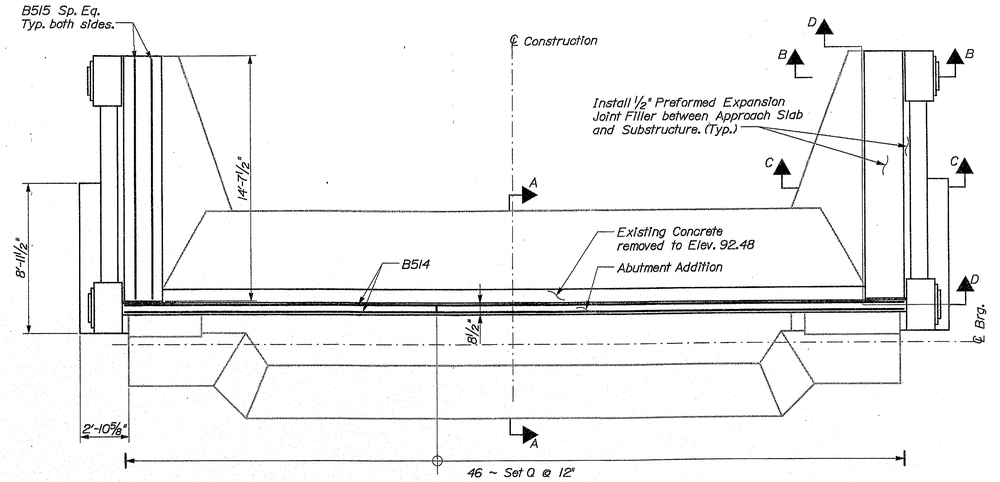
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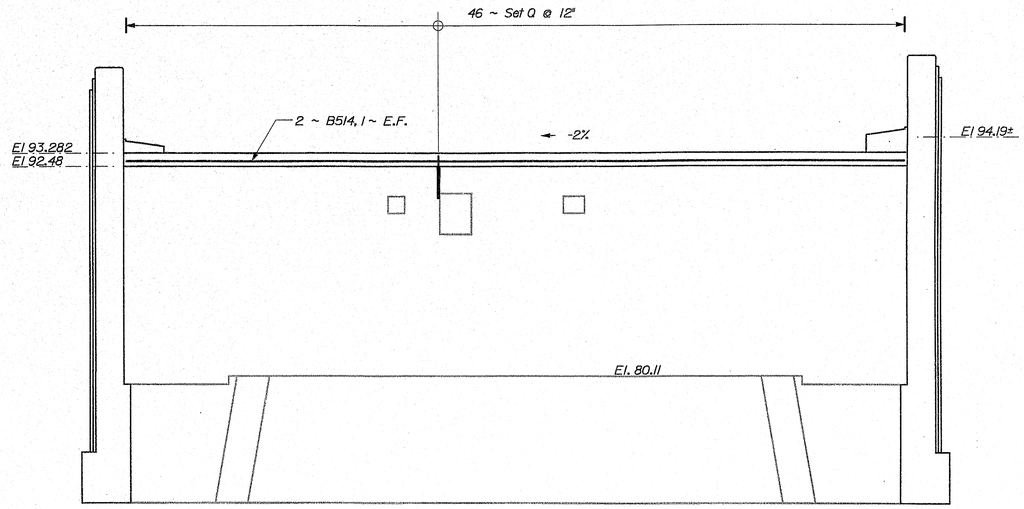
SECTION A-A

TYP. ABUT. No. 2 SECTION DETAIL
& APPROACH SLAB

NOTE:
For Set D components refer
to Abut. No. 1 Detail sheet.
See Abutment No. 2 Details
for Approach Slab Details.



ABUT. No. 2 PLAN



ABUT. No. 2 ELEVATION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5186

BRIDGE PLANS

PROJ. MANAGER	WLF			
DESIGN-DETAILED	ETC	DMS	2/23/05	SIGNATURE
CHECKED-REVIEWED	___	RKG		___
DESIGN2-DETAILED2	___	RKG		___
DESIGN3-DETAILED3	___	BJM		___
REVISIONS 1				___
REVISIONS 2				___
REVISIONS 3				___
REVISIONS 4				___
FIELD CHANGES				___

P.E. NUMBER ___

DATE ___

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

ABUTMENT No. 2

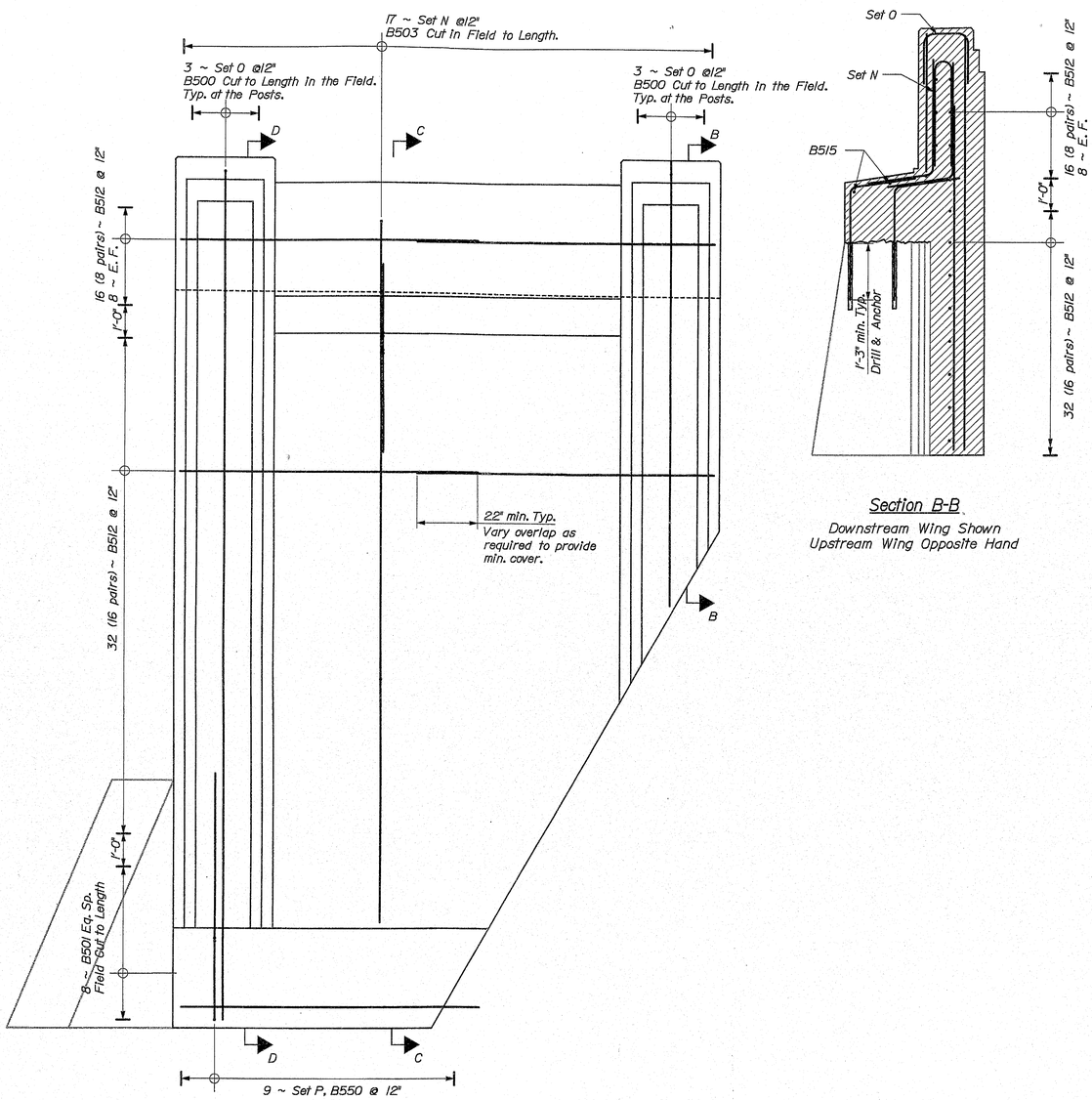
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OF 46

134-229

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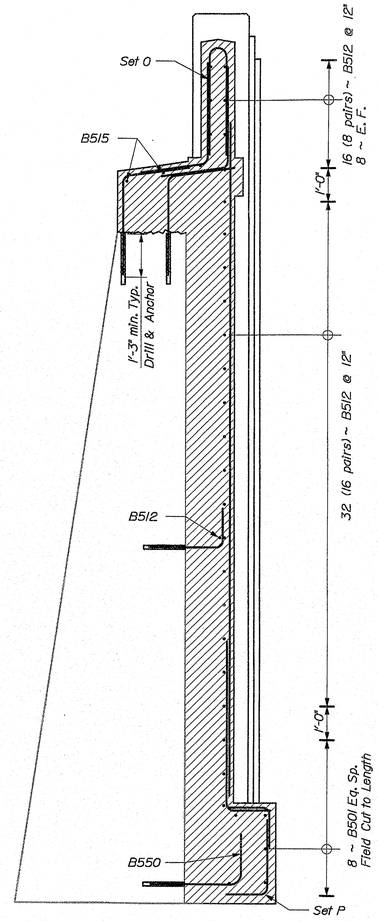


ABUT. No. 2 WING WALL ELEVATION

DOWNSTREAM SIDE SHOWN.
UPSTREAM SIDE OPPOSITE HAND EXCEPT AS NOTED.

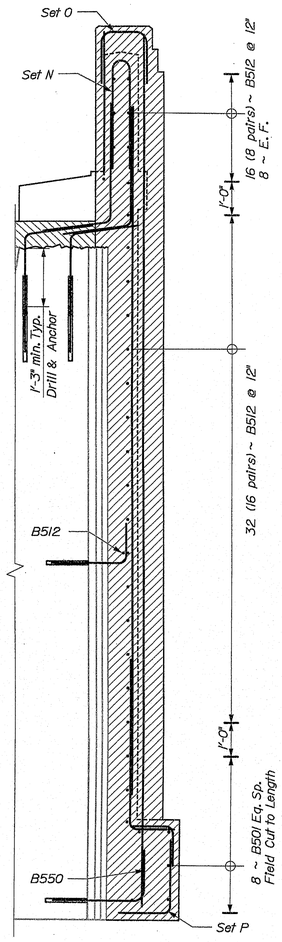
Section B-B

Downstream Wing Shown
Upstream Wing Opposite Hand



Section C-C

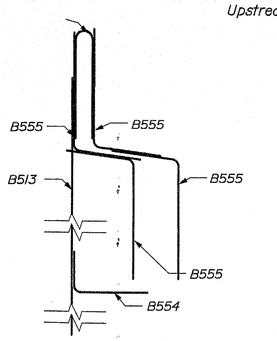
Downstream Wing Shown
Upstream Wing Opposite Hand



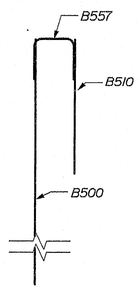
Section D-D

Downstream Wing Shown
Upstream Wing Opposite Hand

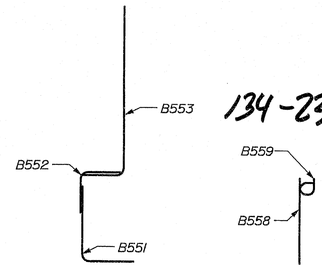
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Set O	1-B500, 1-B557, 1-B511
Set P	1-B551, 1-B552, 1-B553
Set Q	1-B558, 1-B559



SET N



SET O



SET P

SET Q

134-230

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

BRIDGE NO. 5196 | PIN 9327.10 | BRIDGE PLANS

PROJ. MANAGER	WLF	BY	DATE
DESIGN-DETAILED	ETC	DMS	
CHECKED-REVIEWED		RKG	2\23\05
DESIGN2-DETAILED2		RKG	
DESIGN3-DETAILED3		DJM	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

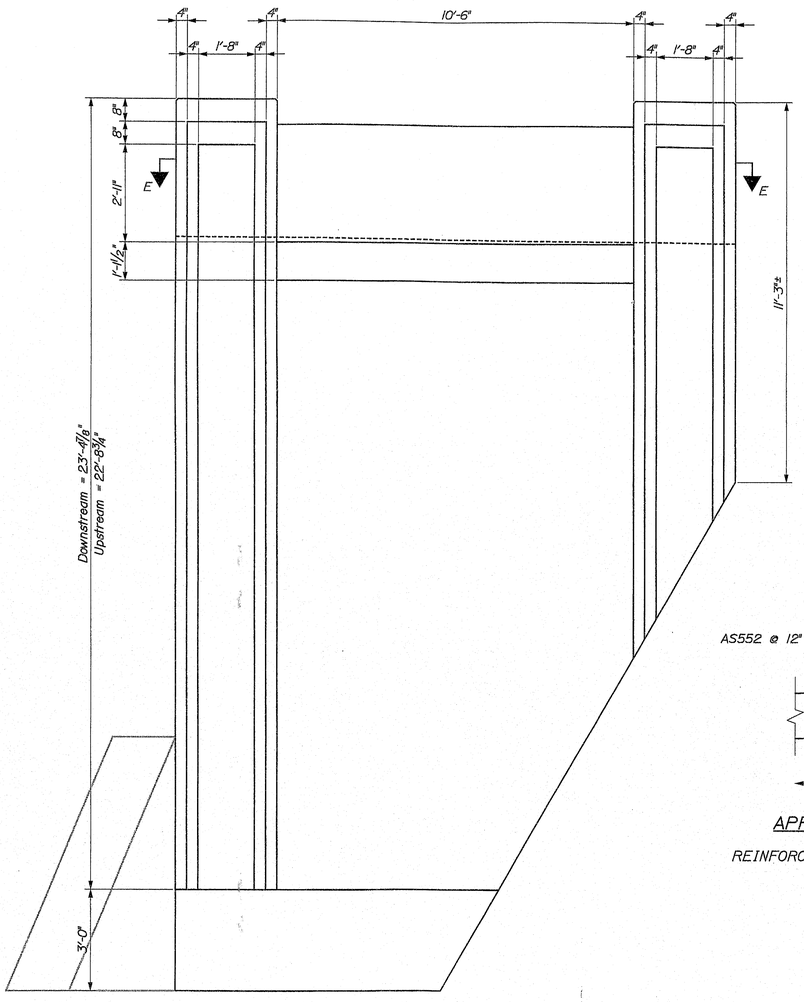
DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

ABUTMENT No. 2 DETAILS

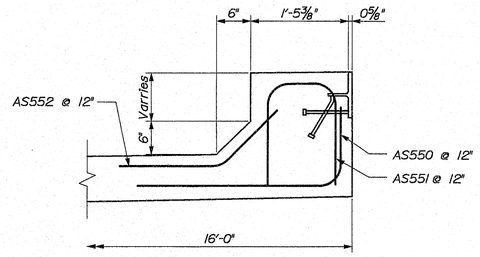
SHEET NUMBER 8 OF 46

Filename: ...\008_Abutment_No_2_Details1.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



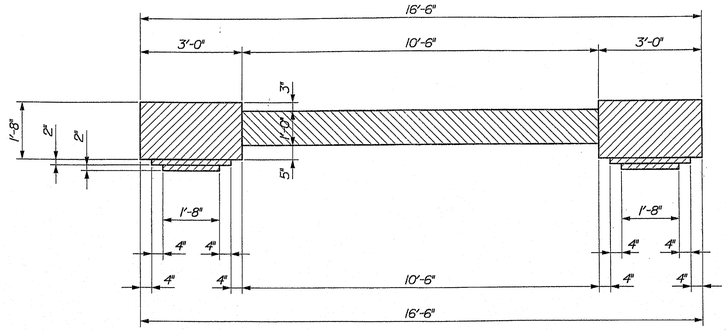
ABUT. No. 2 WING WALL ELEVATION

DOWNSTREAM SIDE SHOWN.
UPSTREAM SIDE OPPOSITE HAND EXCEPT AS NOTED.

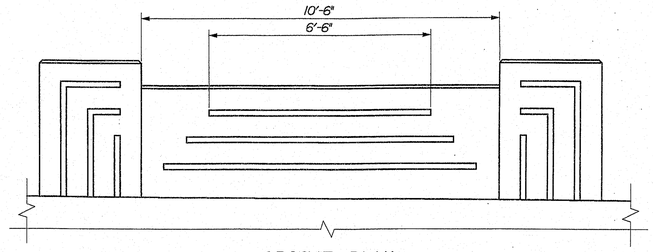


APPROACH SLAB DETAIL

REINFORCING SHOWN IN STANDARD DETAILS
NOT SHOWN FOR CLARITY.



SECTION E-E

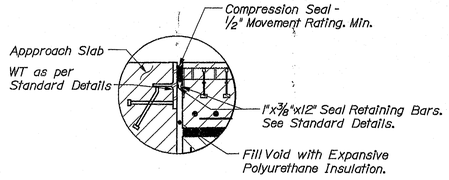


GROOVE PLAN

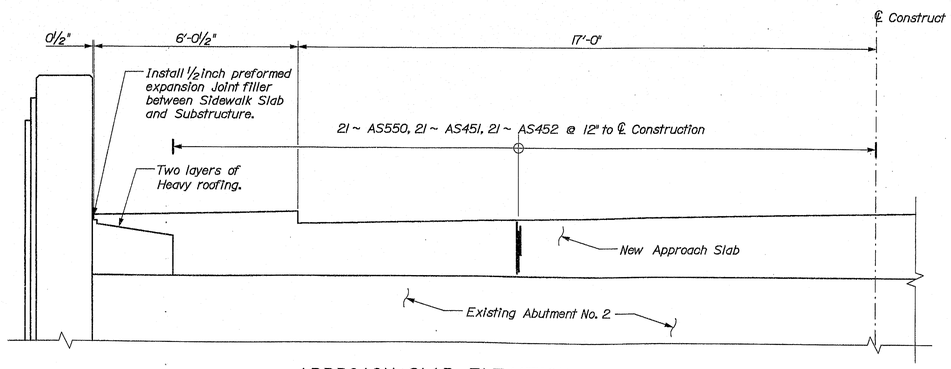
TRAVEL SIDE ELEVATION OF CONCRETE POST AND RAIL.
UPSTREAM SIDE SHOWN, DOWNSTREAM SIDE OPPOSITE HAND.
ALL DIMENSIONS SIMILAR TO GROOVE PLAN FOR ABUTMENT No. 1 EXCEPT AS NOTED.

ABUTMENT No. 2
APPROACH SLAB NOTES:

1. Approach Slab is to extend to within ½" of inside face of new Wings.
2. Length and Pitch of Approach Slab shall be as per Standard Details.



COMPRESSION SEAL DETAIL



APPROACH SLAB ELEVATION

SYMETRICAL ABOUT ℄ CONSTRUCTION

134-231

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5186

BRIDGE PLANS

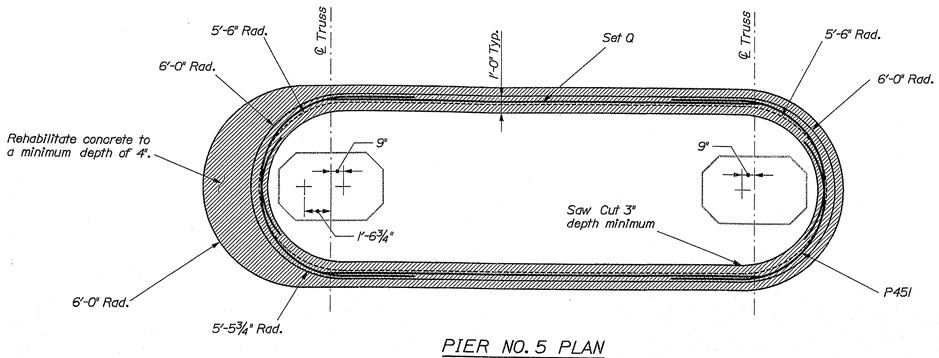
	BY	DATE	
PROJ. MANAGER	WLF		
DESIGN-DETAILED	DMS	2\23\05	SIGNATURE
CHECKED-REVIEWED	RKC		
DESIGN2-DETAILED2	RKC		P.E. NUMBER
DESIGN3-DETAILED3	BJH		
REVISIONS 1			DATE
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

ABUTMENT No. 2 DETAILS

SHEET NUMBER 9 OF 46

Filename: ...\009_Abutment_No_2_Details2.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



PIER NO. 5 PLAN

PIER NO. 5 REHAB PROCEDURE / NOTES

1. Saw cut a neat, straight line in the top of the concrete pier to a depth of 3", 1'-0" from the top corner of the concrete bearing surface.

2. Remove the concrete to a depth of 4" over exposed surfaces within 10' of horizontal and within 1'0" of the vertical surfaces.

3. Remove concrete over the all exposed surfaces within 15" of vertical to a minimum depth of 4" measured perpendicular to the face of concrete to the elevation of the top of the footing. Contractor shall be careful not to exoavate concrete to the existing reinforcing steel over more than 20% of the surface area of the existing pier at one time. It should be noted that while location of existing reinforcement may vary from that shown on plans, the existing plans indicate 6 inches of cover to reinforcement.

4. Drill and anchor 234 P450 bars with 1'-0" embedment min. and place reinforcing steel with a minimum cover of 2 inches in accordance with standard specification section 503.

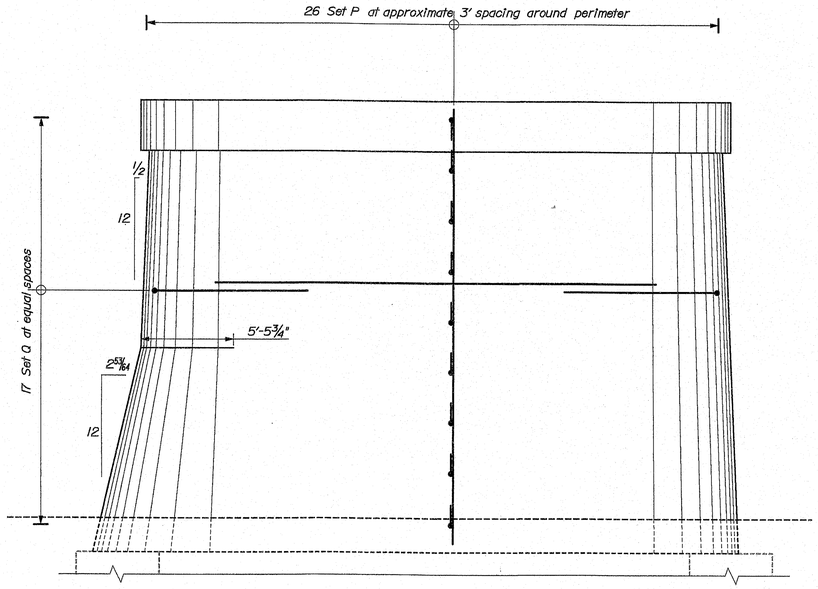
5. Cast new concrete to the exact lines and grade of the original pier and in accordance with all applicable specifications

6. New Concrete for the jacket shall be class LP.

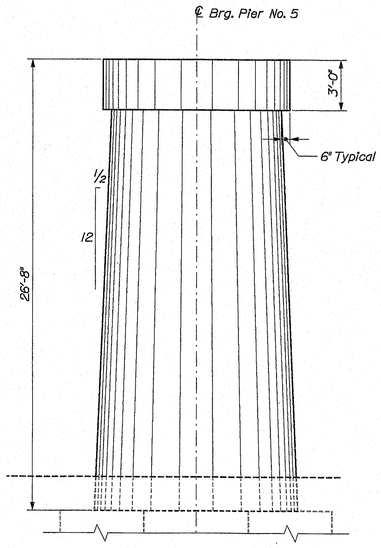
7. Forms may be removed when concrete Jacket has reached a minimum strength of 3000 psi as demonstrated by cylinders cured with the concrete jacket, or once the curing period is over. Should the forms be removed prior to the full 7 day curing period is completed, defects shall be repaired immediately and an approved curing compound shall be applied in accordance with standard specification 502.10 subsection D.

8. It is anticipated that the contractor may need to modify the P451 bars in the field

9. Protective coating of concrete surfaces must be applied over all exposed surfaces of the pier down to 1'-0" below the ground line, and in accordance with applicable standard specifications. This work must be completed prior to the onset of winter.

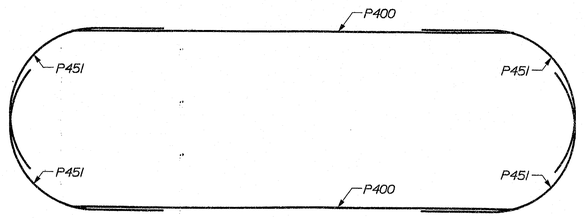


PIER NO. 5 ELEVATION



PIER NO. 5 RIGHT SIDE VIEW

SET P



SET Q

REBAR SETS	
Set P	9-P450, 1-P400
Set Q	2-P400, 4-P451

134-232

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	ETC	DMS 2\23\05
CHECKED-REVIEWED		RKC
DESIGN2-DETAILED2		RKC
DESIGN3-DETAILED3		BJM
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

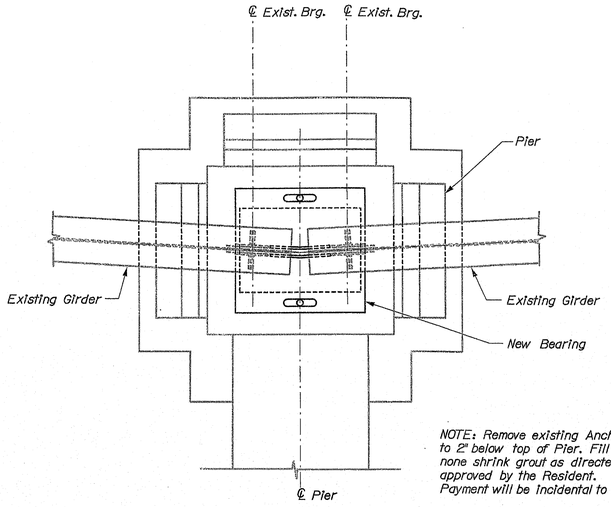
DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

PIER NO. 5 REHABILITATION

SHEET NUMBER
10
OF 46

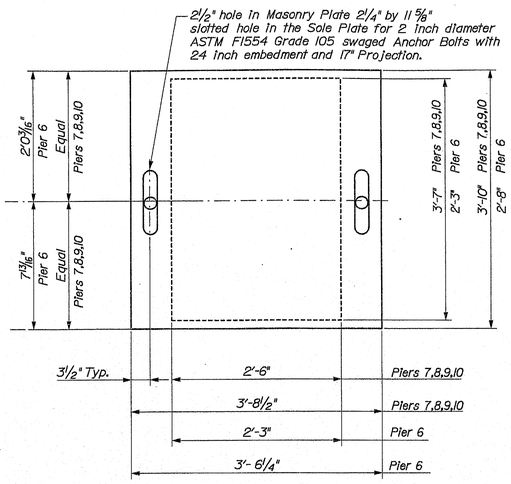
Filename: ...\mstq\010_Pier_No._5_Rehab.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



NOTE: Remove existing Anchor Bolts to 2" below top of Pier. Fill voids with none shrink grout as directed and approved by the Resident. Payment will be Incidental to Item 523.08

BEARING REPLACEMENT PLAN

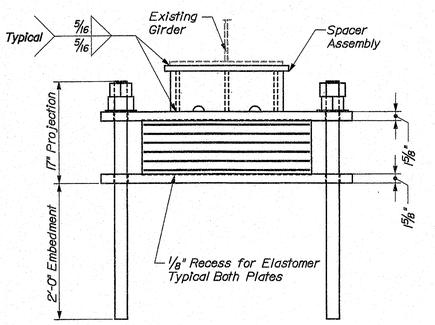
Upstream Pier shown, Downstream Pier Similar
Piers 7, 8, 9 & 10



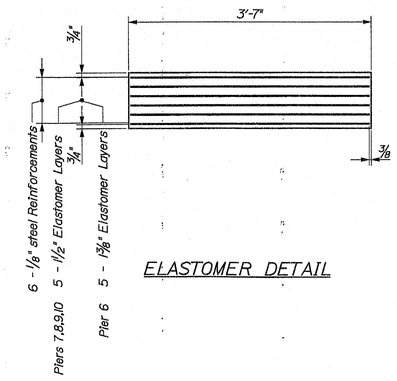
TOP VIEW

Elastomeric Bearing Notes

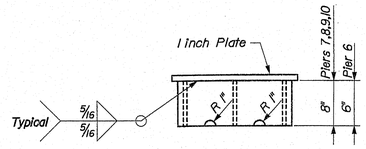
1. Masonry and Sole Plates to be hot dipped galvanized in accordance with ASTM A123
2. All hardware to be Galvanized in accordance with ASTM A153
3. Install a 6" diameter by ¼" thick plate washer with a 2-1/4 inch diameter hole at each anchor bolt location.
4. Install 2 heavy hex nuts on each anchor bolt. Install nuts only snug tight, disrupt threads once installation is complete.
5. The shear modulus shall be between 100 and 130 psi
6. Vulcanizing elastomer to Steel Plates shall be done during the primary mold process.
7. Bearings shall be covered during transit.
8. The Masonry Plate and Sole Plate shall meet the requirements of ASTM A36.
9. The Bearings are designed so that the Bearings may be Installed when the Ambient Air Temperature is within the range of 30°F and 60°F.
10. The lane over the girder line on which the bearings are being Installed shall be closed to traffic during the time the girders are supported on jacks.



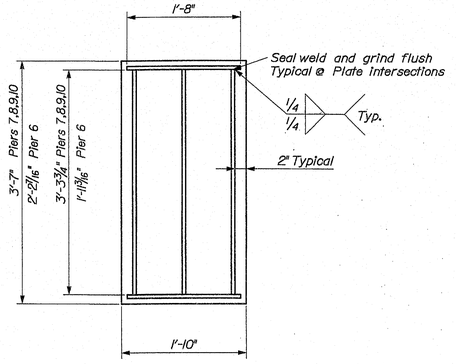
ELEVATION



ELASTOMER DETAIL



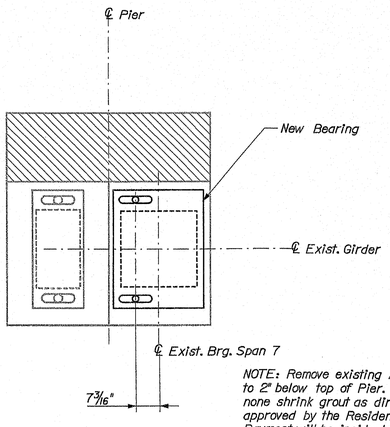
Spacer Assembly Elevation



Spacer Assembly Bottom View

Spacer Assembly Notes

1. All Plates in spacer assembly are ⅝" Unless Noted Otherwise
2. All Plates in spacer assembly are ASTM A36 Steel
3. Spacer assembly is to be Galvanized in accordance with ASTM A123
4. Non Destructive Examination of welds will be 100% Visual Testing (VT).



NOTE: Remove existing Anchor Bolts to 2" below top of Pier. Fill voids with none shrink grout as directed and approved by the Resident. Payment will be Incidental to Item 523.08

BEARING REPLACEMENT PLAN PIER 6

Upstream Pier shown, Downstream Pier Similar

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5186

	BY	DATE
PROJ. MANAGER	WLF	
DESIGNED-DETAILED	DMS	2\23\05
CHECKED-REVIEWED	ETC	RKC
DESIGN2-DETAILED2	----	RKC
DESIGN3-DETAILED3	----	BJN
REVISIONS 1	----	----
REVISIONS 2	----	----
REVISIONS 3	----	----
REVISIONS 4	----	----
FIELD CHANGES	----	----

SIGNATURE

P.E. NUMBER

DATE

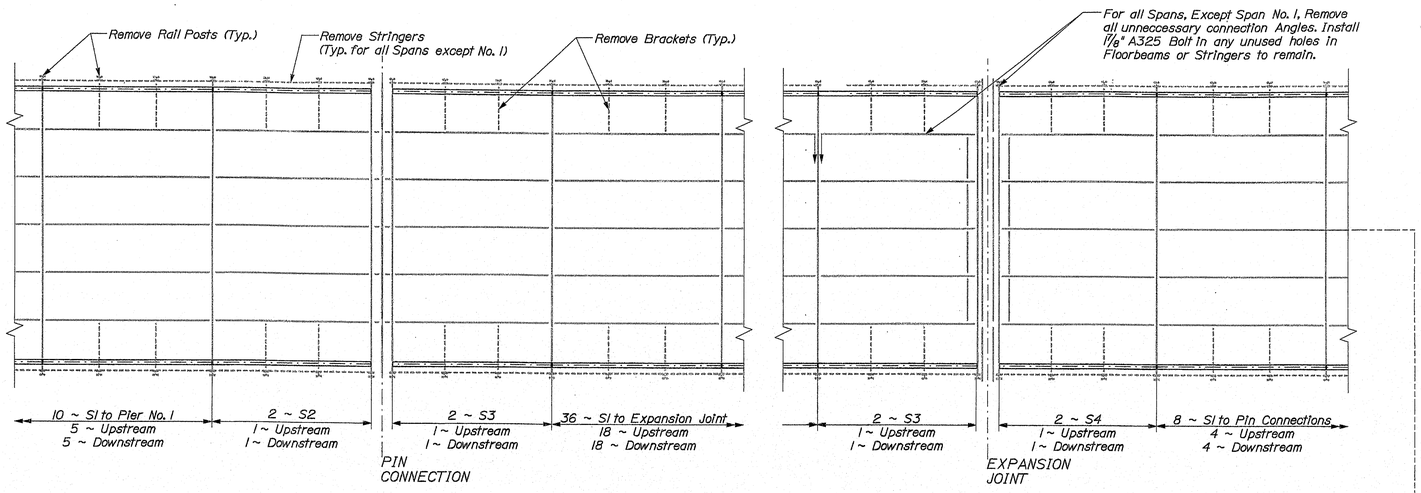
MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

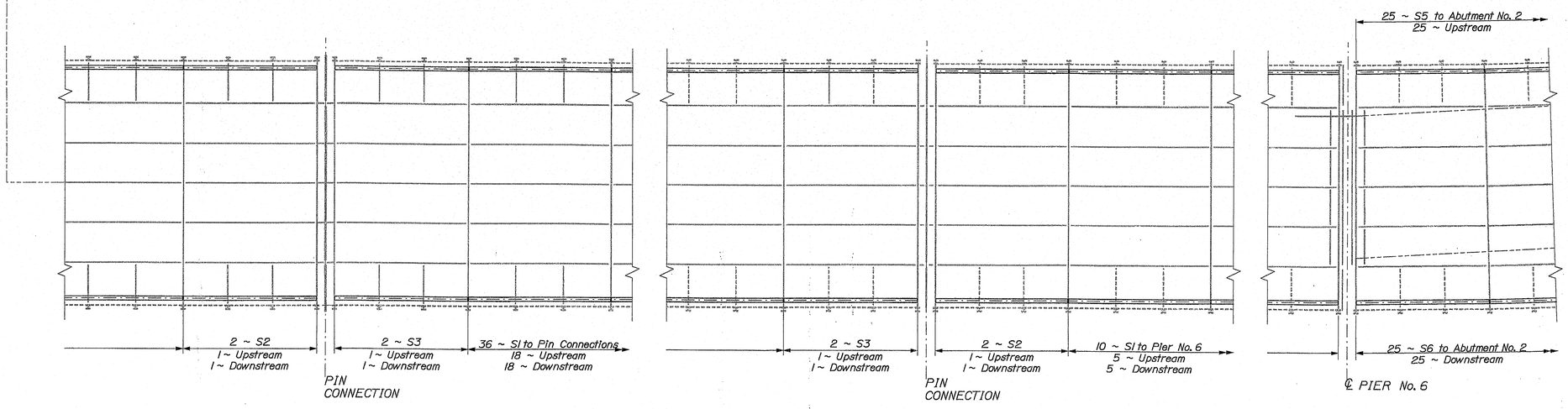
BEARING REPLACEMENT

SHEET NUMBER 11 OF 46

134-233

Filename: ...\011_Bearing_Replacement.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005





134-234

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5198 BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	WLF		
DESIGN-DETAILED	ETC	DMS	
CHECKED-REVIEWED		RKC	
DESIGN-SPECIALIST		RKC	
DESIGN-APPROVED		DAH	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

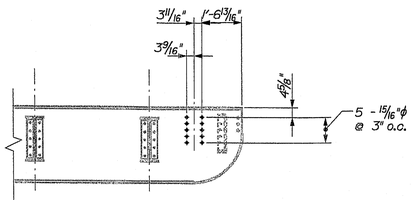
NEW STRINGER PLAN

SHEET NUMBER

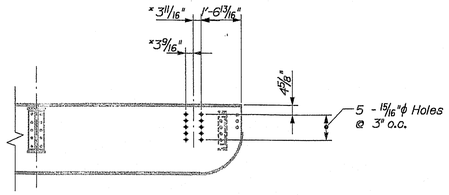
12

OF 46

Filename: ...\rnsta\012_New_Stringer_Plan.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

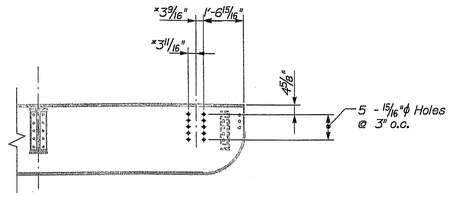


DOWNSTREAM STRINGER REPLACEMENT
SPAN No. 1 - 1FBI-0-1



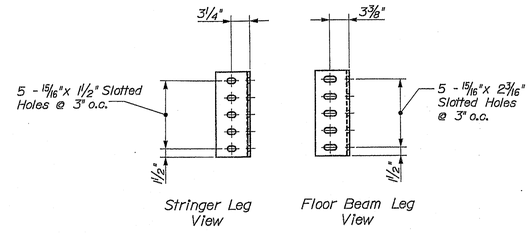
TYPICAL TRUSS FLOOR BEAM HOLE LOCATIONS

* TYPICAL FOR STRINGER REPLACEMENT HOLES IN TRUSS SPAN, UPSTREAM AND DOWNSTREAM, WHERE A2 WILL BE ATTACHED TO THE OUTSIDE OF THE NEW STRINGER.



TYPICAL TRUSS FLOOR BEAM HOLE LOCATIONS

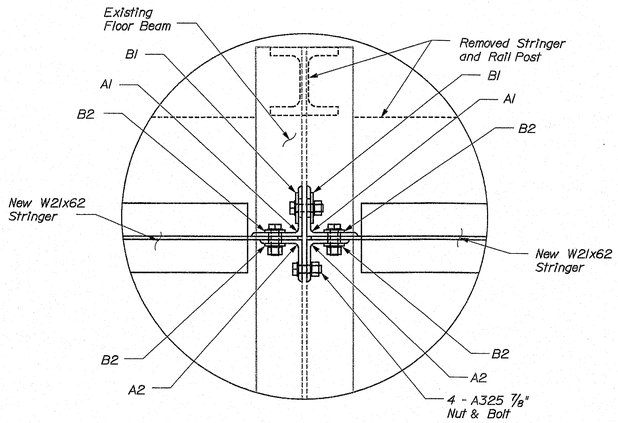
* TYPICAL FOR STRINGER REPLACEMENT HOLES IN TRUSS SPAN, UPSTREAM AND DOWNSTREAM, WHERE A2 WILL BE ATTACHED TO THE INSIDE OF THE NEW STRINGER.



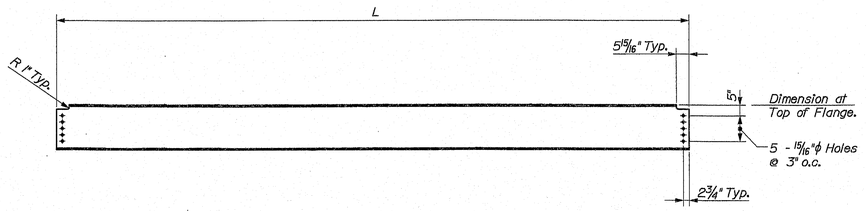
L 6"x6"x7/16"x1'-3"

ANGLE A1

TWO PER NEW W21X62 STRINGER,
ONE EACH END AND ON OPPOSITE SIDES.



DETAIL A

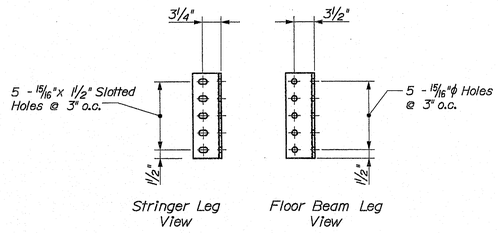


TYPICAL STRINGER REPLACEMENT W21x62 ELEVATION

STRINGER REPLACEMENT LENGTHS

Dim. L

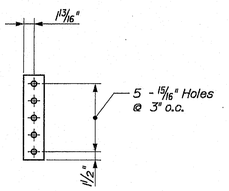
Label	Length	Quantity
S1	24'-10 3/8"	100
S2	23'-3 3/8"	6
S3	23'-4 3/8"	8
S4	23'-1 7/8"	2
S5	22'-5 1/4"	25
S6	23'-3 3/4"	25



L 5"x5"x7/16"x1'-3"

ANGLE A2

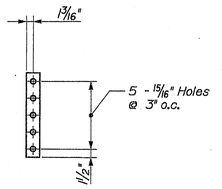
TWO PER NEW W21X62 STRINGER,
SEE FLOOR BEAM DETAIL FOR LOCATION.



3 5/8"x1'-3"x5/16"

BAR B1

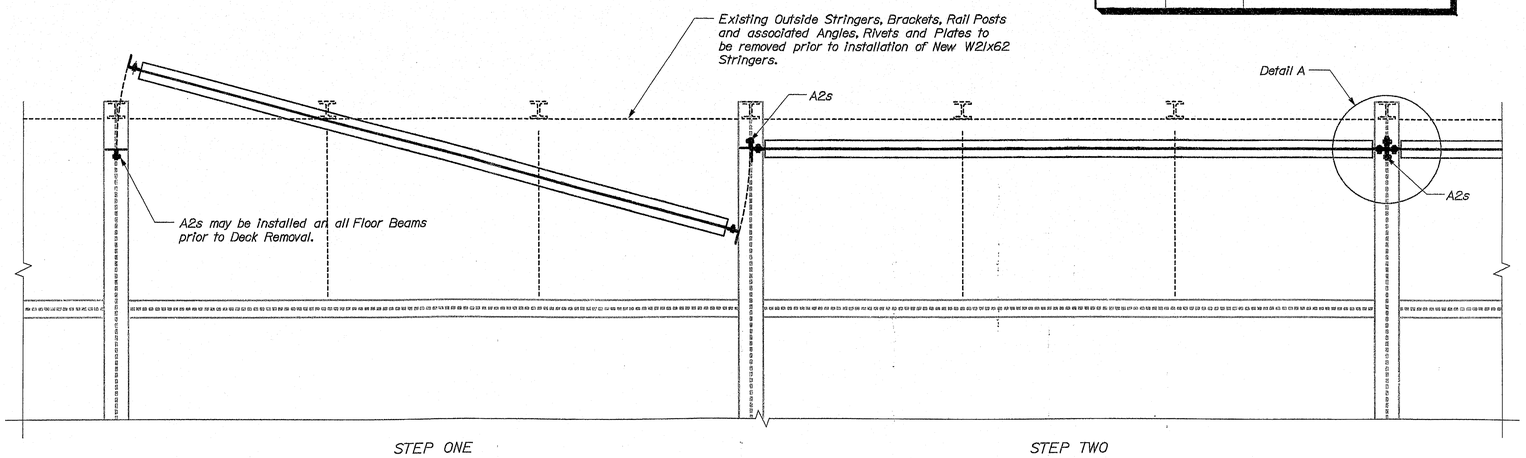
ONE BAR FOR EACH A1. SEE DETAIL A.



2 3/8"x1'-3"x5/16"

BAR B2

ONE BAR FOR EACH A1 AND A2. SEE DETAIL A.



TYPICAL INSTALLATION OF NEW W21x62 STRINGER AND ASSOCIATED ITEMS

NOTE:
Use A325 Galv. 7/8" UNO Bolts and Nuts.

134-235

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5196

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	EJC	2\23\05
CHECKED-REVIEWED	DMS	
DESIGN2-DETAILED2	RKC	
DESIGN3-DETAILED3	RKC	
REVISIONS 1	BJN	
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

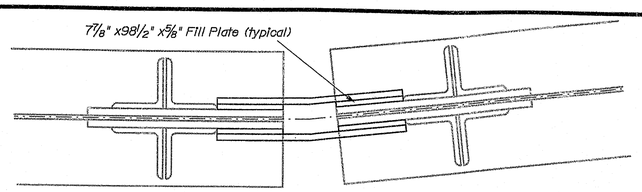
DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

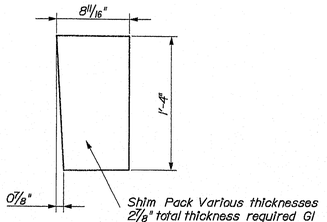
NEW STRINGER DETAILS

SHEET NUMBER
13
OF 46

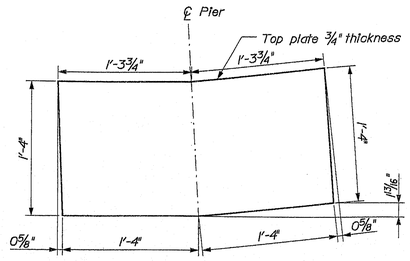
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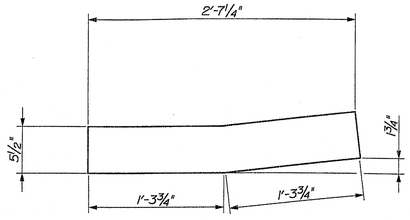
SECTION A-A



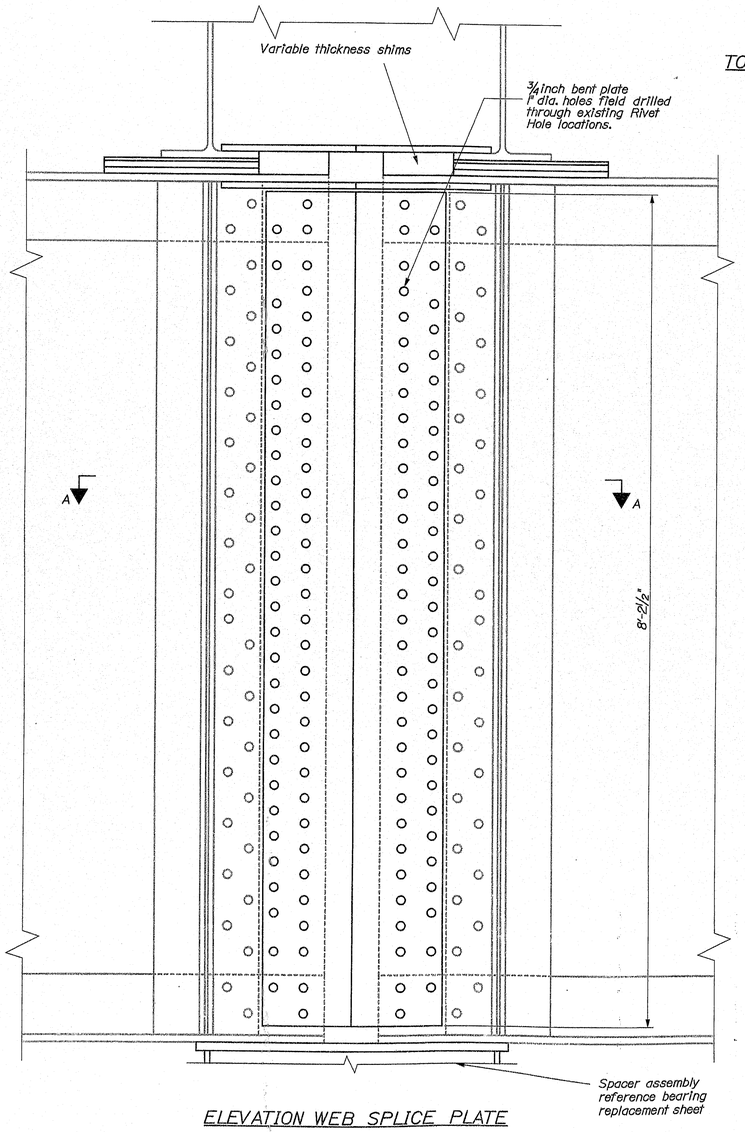
TOP GIRDER OUTSIDE SHIM PLATES



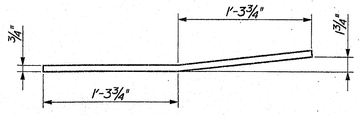
TOP GIRDER OUTSIDE SPLICE PLATE



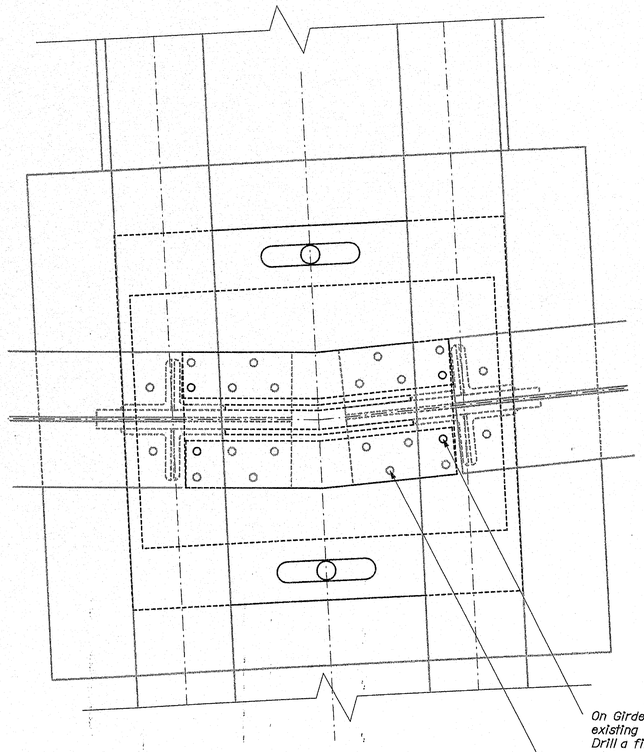
TOP GIRDER INSIDE SPLICE PLATE
TWO REQUIRED PER SPLICE



ELEVATION WEB SPLICE PLATE



PLAN WEB SPLICE PLATE



PLAN VIEW OF GIRDER SPLICE

Pier seven downstream girders shown upstream simular
(Typical @ Piers 7,8,9,10)

NOTES

1. All steel shall be painted in accordance with special provision 506. Areas within 8" of each vertical edge of the web splice and within 12 inches of the flange splice plate shall be considered to be faying surfaces or within 3" of the bolt hole for coating purposes.
2. All steel for use as splice plates shall be astm a36 grade.
3. All bends required in web splice shall be made cold.
4. Contractors attention should be brought to the fact that all paint on the existing structure is lead based.
5. All paint on the existing steel which is between faying surfaces of the splices shall be removed and disposed of in accordance with all applicable regulations. No direct payment shall be made for this work, but it shall be considered incidental to item *504.73 remove, modify, and reset structural steel.
6. All holes 1" diameter unless noted otherwise.
7. All fasteners shall be 7/8" diameter a325 bolts with a hardened washer under both the bolt head and nut.
8. All new steel exposed in the final assembly and all existing steel where the Contractors operations have compromised the existing coating shall be intermediate and top coated in the field.
9. All holes to be field drilled and all splicing work shall be done and progress in accordance with the provisions of special provision 504.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5196

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	ETC	DMS 2\23\05
CHECKED-REVIEWED		RKC
DESIGN2-DETAILED2		RKC
DESIGN3-DETAILED3		BJN
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

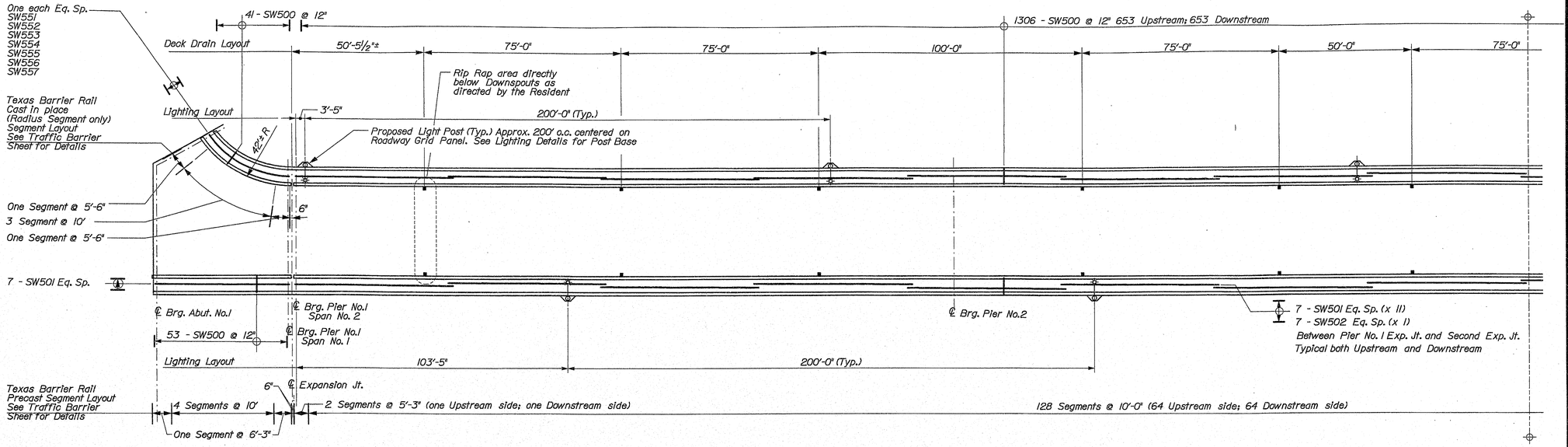
MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

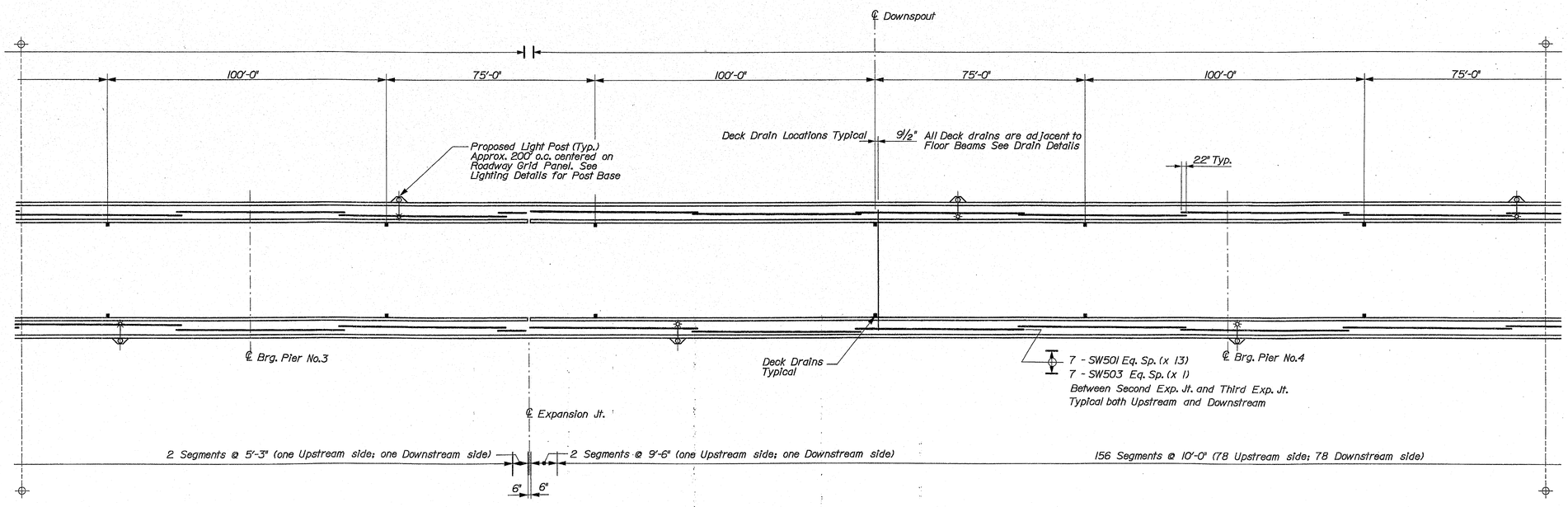
GIRDER SPLICING

SHEET NUMBER
14
OF 46

134-236

Filename: ...\msta\014_Girder_Splicing.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005





PLAN SHOWING LAYOUT OF LIGHTING, DECK DRAINS AND TEXAS BARRIER SEGMENTS

134-237

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5186

BRIDGE PLANS

PROJ. MANAGER	WLF	BY
DESIGN-DETAILED	ETC	DMS
CHECKED-REVIEWED		RKC
DESIGN2-DETAILED2		RKC
DESIGN3-DETAILED3		DJN
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

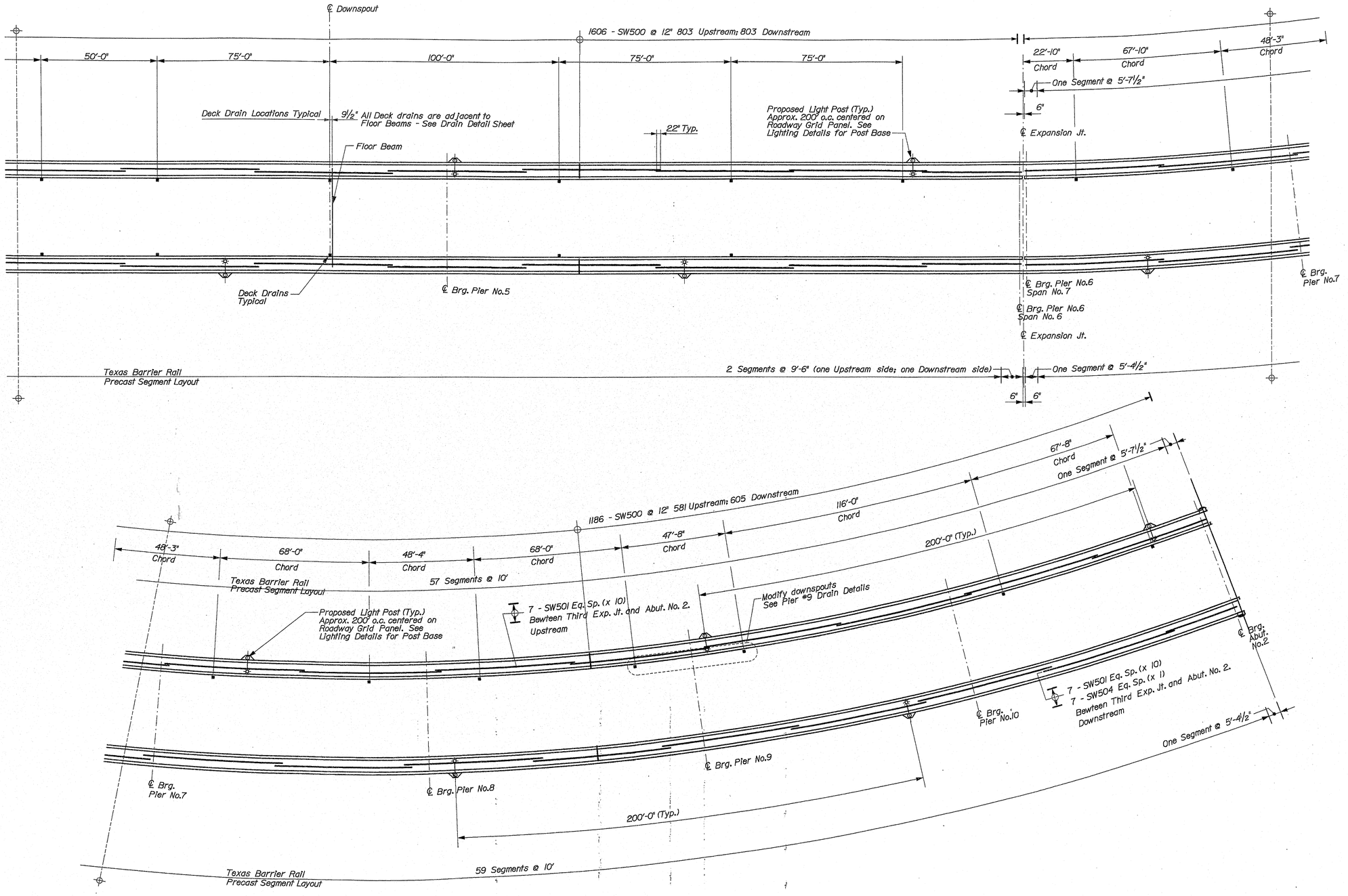
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MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

SUPERSTRUCTURE PLAN

SHEET NUMBER
15
OF 46

Filename: ...\015_Superstructure_Plan1.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



PLAN SHOWING LAYOUT OF LIGHTING, DECK DRAINS AND TEXAS BARRIER SEGMENTS

134-238

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5196

PROJ. MANAGER	WLF
DESIGN-DETAILED	ETC
CHECKED-REVIEWED	
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	DMS	2\23\05
REVISIONS 2	REC	
REVISIONS 3	BJN	
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

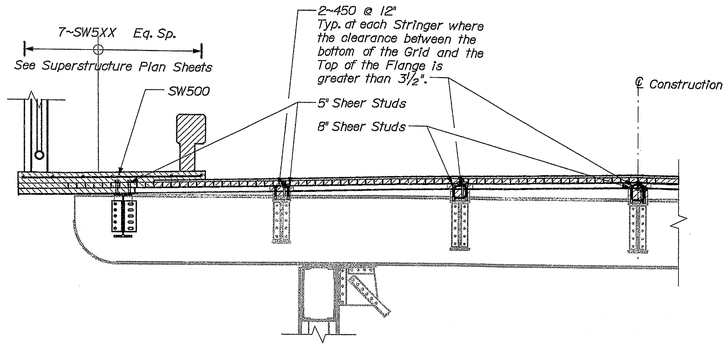
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MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

SUPERSTRUCTURE PLANS

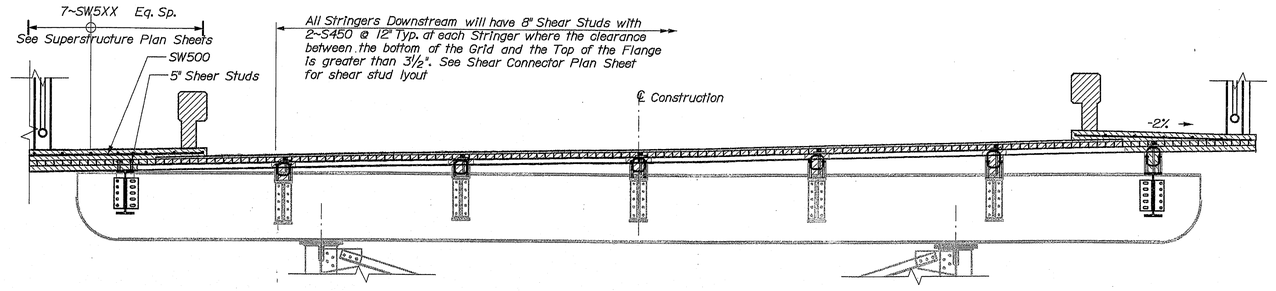
SHEET NUMBER
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OF 46

Filename: ...\016_Superstructure_Plan2.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



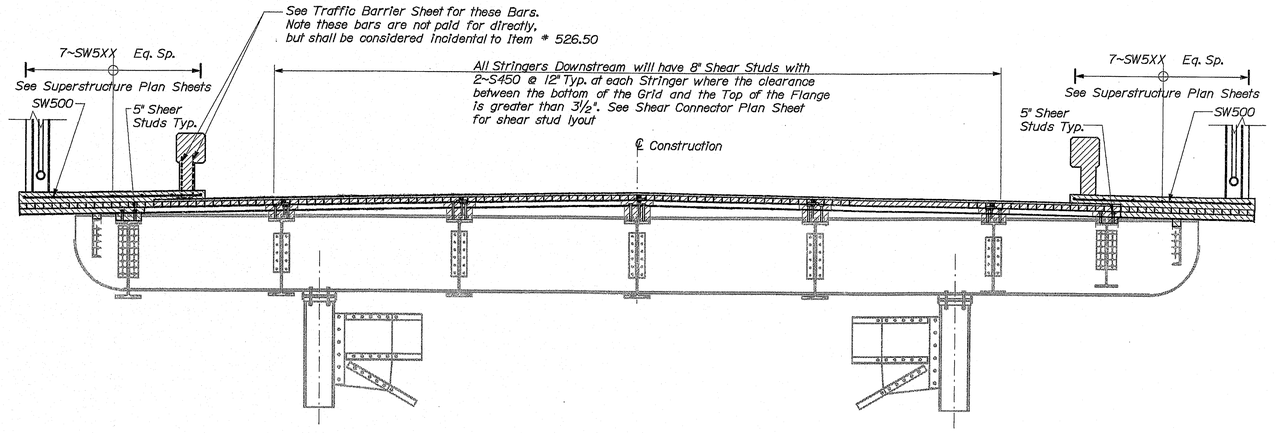
TRUSS SECTION HAUNCH LAYOUT

SYMETRICAL ABOUT ℄ CONSTRUCTION



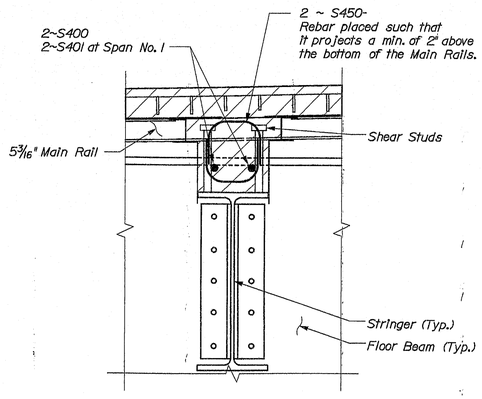
GIRDER SECTION HAUNCH LAYOUT

REBAR REMOVED FOR CLARITY

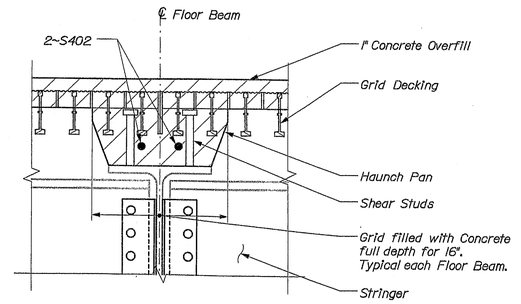


SPAN No. 1 SECTION HAUNCH LAYOUT

REBAR REMOVED FOR CLARITY



TYPICAL HAUNCH DETAIL



TYPICAL FLOOR BEAM HAUNCH DETAIL

NOTE:
Rebar to be Cut to Length In the Field.

134-239

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5196

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	ETC	
CHECKED-REVIEWED	DMS	2/23/05
DESIGNS-DETAILED2	RKC	
DESIGN2-DETAILED3	EJN	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

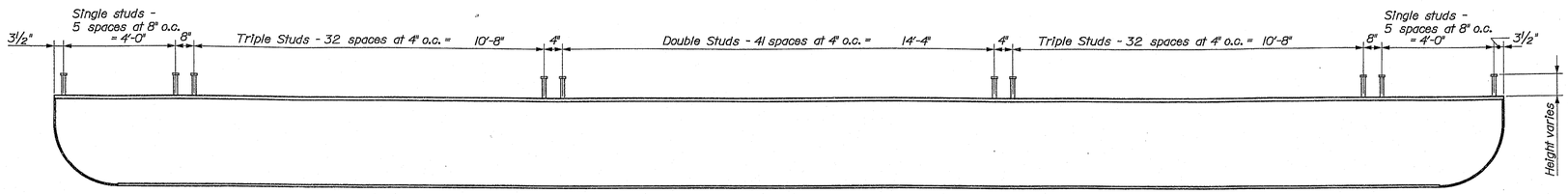
SUPERSTRUCTURE DETAILS

SHEET NUMBER

17

OF 46

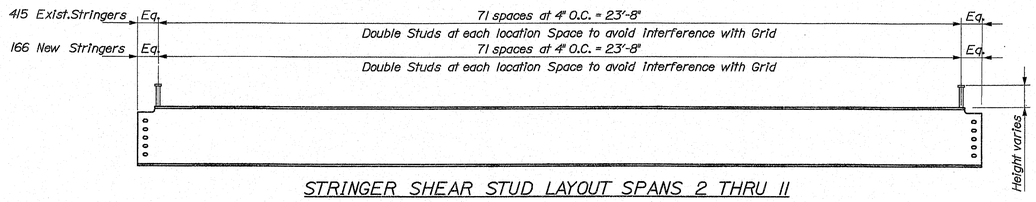
Filename: ...\017_Superstructure_Details.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



FLOOR BEAM SHEAR STUD LAYOUT

93 Floor Beams (existing) to receive 294 studs each = 27,342 Total

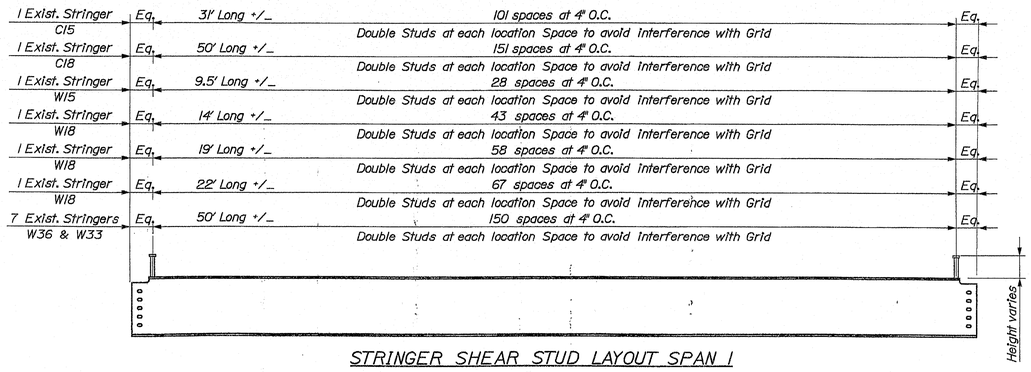
Stud Height varies See Superstructure Details Sheet for requirements



STRINGER SHEAR STUD LAYOUT SPANS 2 THRU 11

581 Stringers (new and exist.) to receive 83,664 studs Total

Stud Height varies See Superstructure Details Sheet for requirements



STRINGER SHEAR STUD LAYOUT SPAN 1

13 Stringers (exist.) to receive 3,022 studs Total

Stud Height varies See Superstructure Details Sheet for requirements

134-240

Filename: ...\018_Shear_Connector_Plan.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

BRIDGE NO. 5196 PIN 9327.10 BRIDGE PLANS

PROJ. MANAGER	WLF		
DESIGN-DETAILED	ETC	DMS	2/23/05
CHECKED-REVIEWED		RKC	2/23/05
DESIGN-DETAILED2		RKC	
DESIGN-DETAILED3		BJM	
REVISIONS 1			
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REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

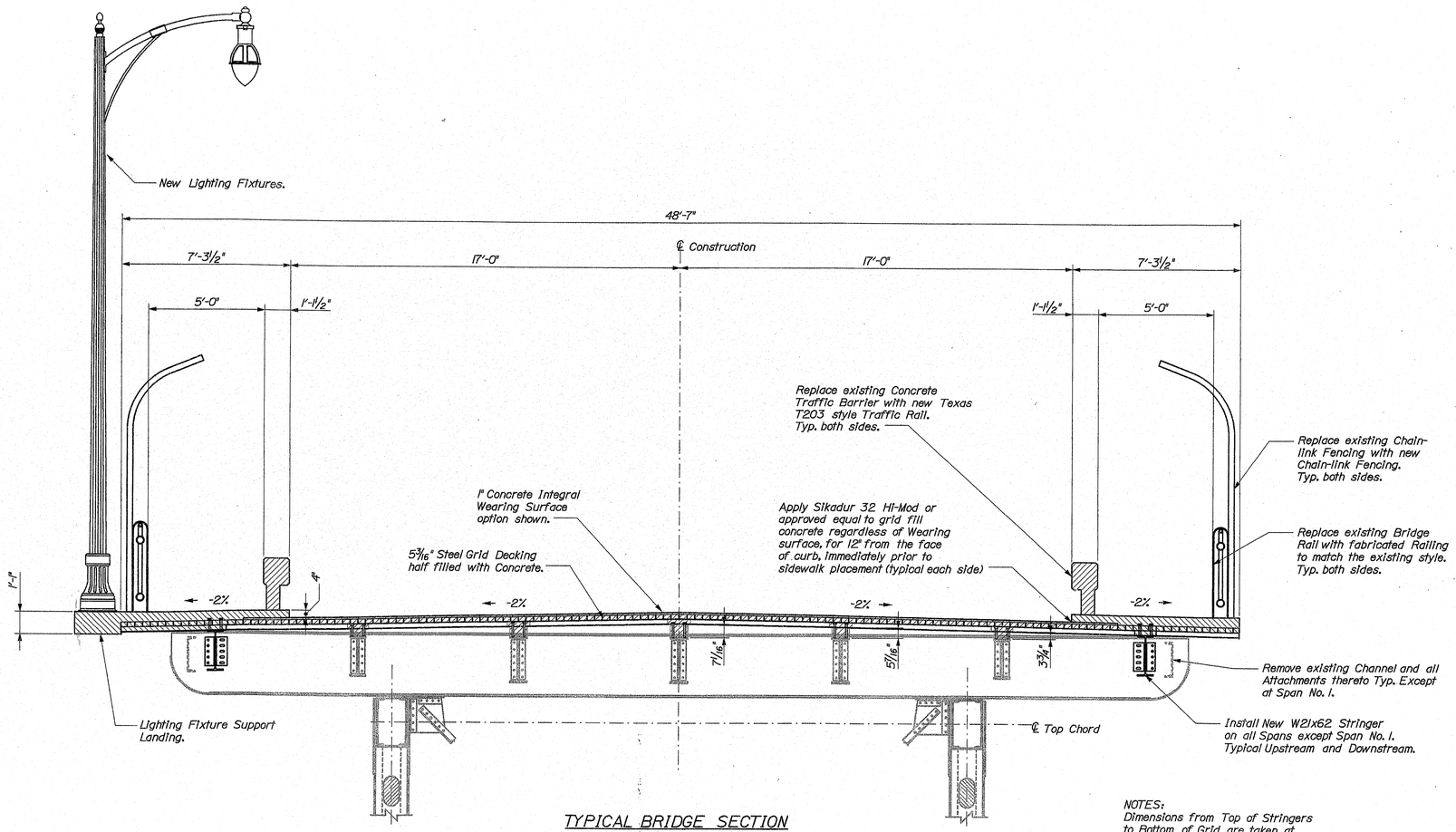
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MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

SHEAR CONNECTOR PLAN

SHEET NUMBER 18 OF 46

Filename: ...\019_Typical_Truss_Floor_Beam.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



TYPICAL BRIDGE SECTION
~ TRUSS SPAN ~

NOTES:
Dimensions from Top of Stringers to Bottom of Grid are taken at ℄ of respective Stringer.

For Normal Crown Section only, as shown on Sheet 21.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

	W.I.F	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	ETC	DMS	2\23\05
CHECKED-REVIEWED	___	RKC	___
DESIGN2-DETAILED2	___	RKC	___
DESIGN3-DETAILED3	___	BJM	___
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

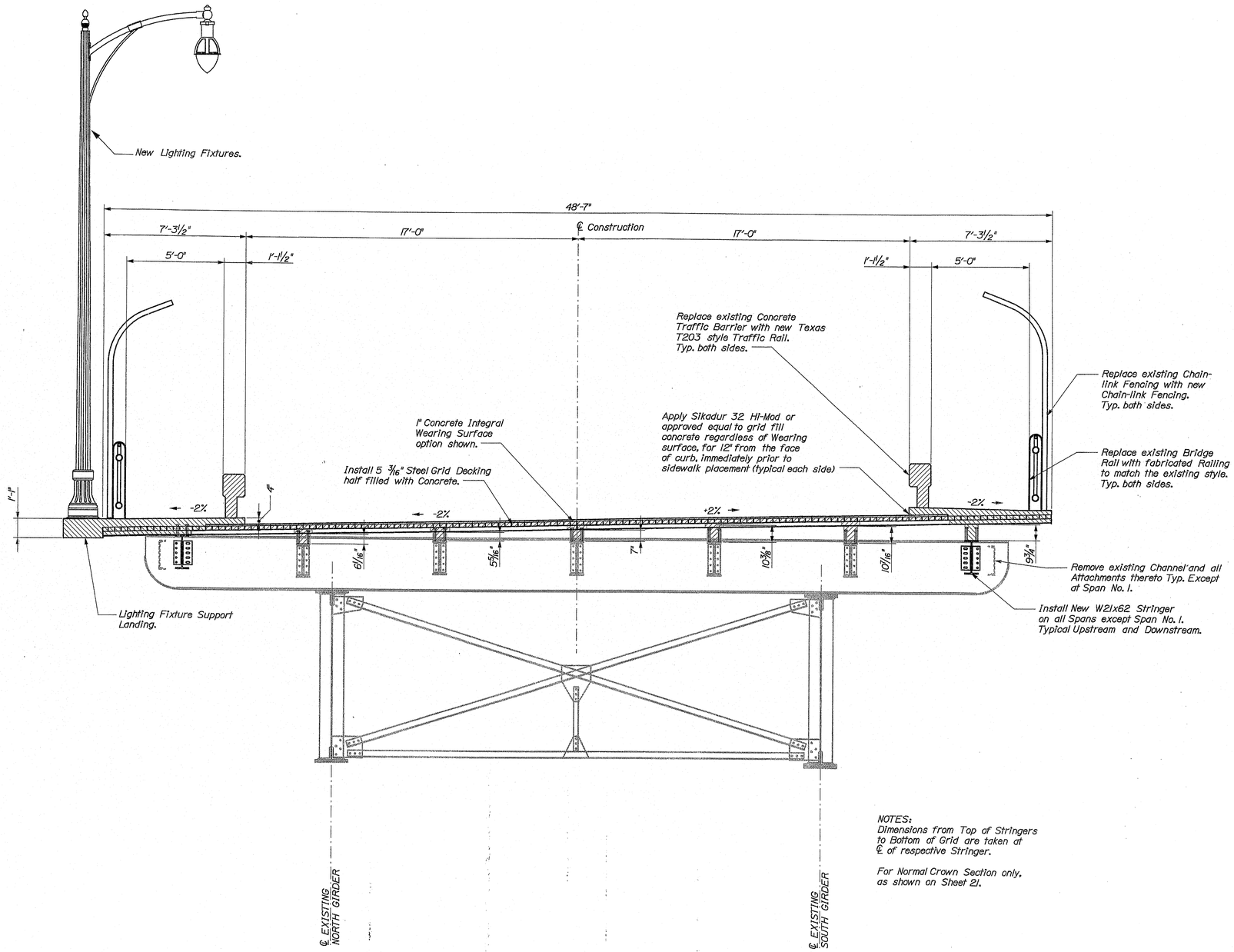
MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

TYPICAL TRUSS FLOOR BEAM

SHEET NUMBER
19
OF 46

134-241

Filename: ...\020_Typical_Girder_Floor_Beam.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



NOTES:
Dimensions from Top of Stringers to Bottom of Grid are taken at ℄ of respective Stringer.

For Normal Crown Section only, as shown on Sheet 21.

TYPICAL BRIDGE SECTION
~ GIRDER SPAN ~

134-242

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5186

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	WLF		
DESIGN-DETAILED	ETC	DMS	2\23\05
CHECKED-REVIEWED		RKC	
DESIGN2-DETAILED2		RKC	
DESIGN3-DETAILED3		BJN	
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REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

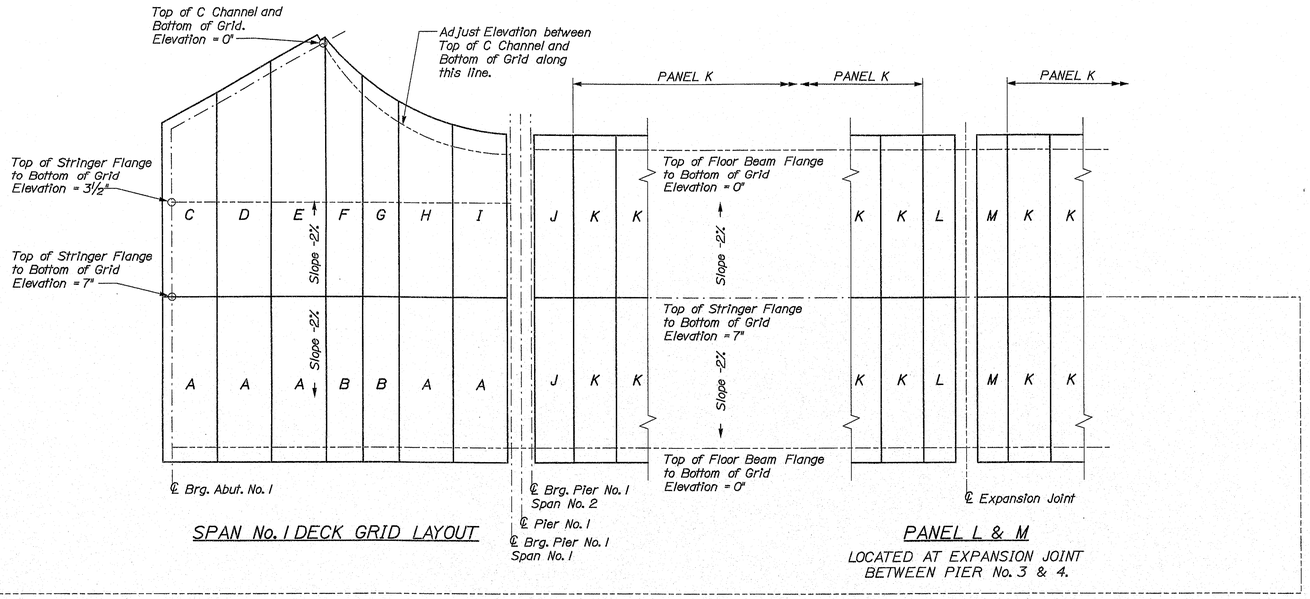
P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

TYPICAL GIRDER FLOOR BEAM

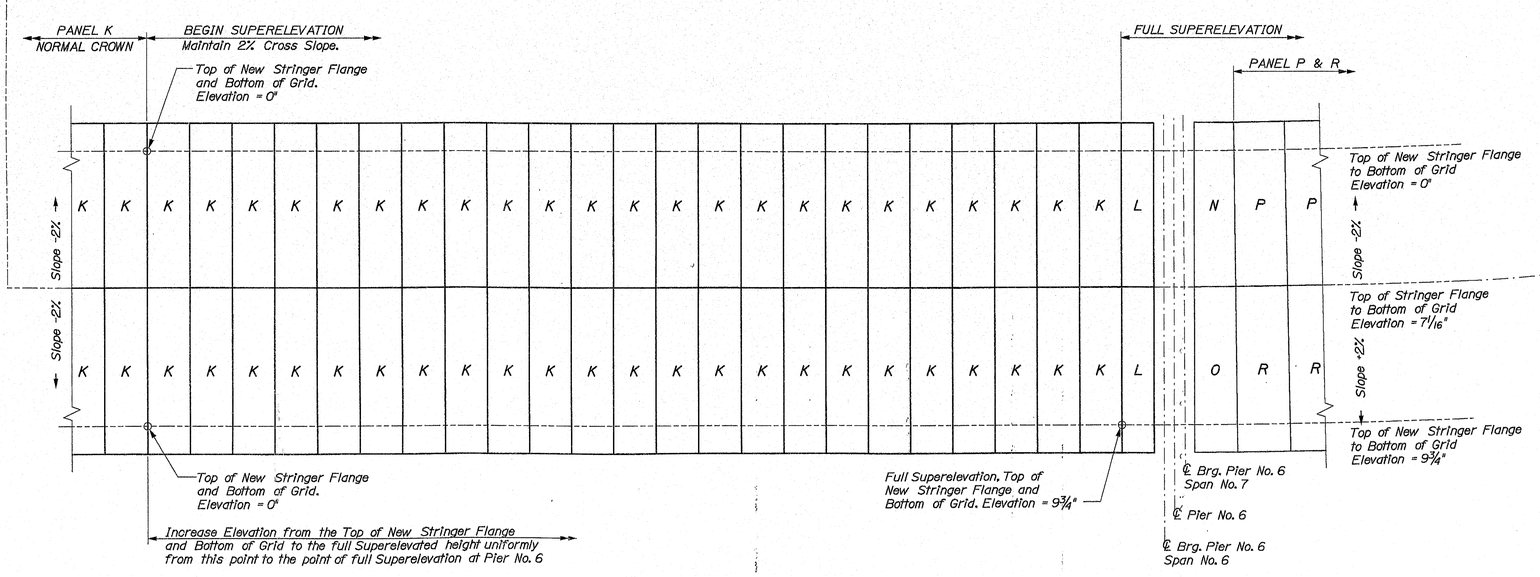
SHEET NUMBER
20
OF 46



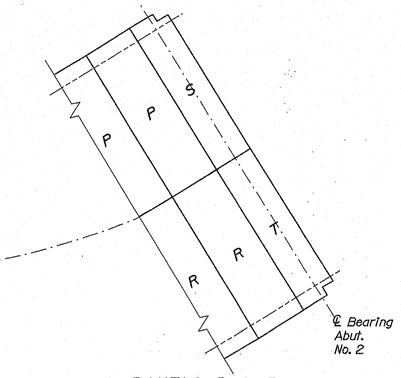
SPAN No. 1 DECK GRID LAYOUT

PANEL L & M

LOCATED AT EXPANSION JOINT BETWEEN PIER No. 3 & 4.



SUPERELEVATION APPROACH



PANELS P & R

LOCATED AT ABUT. No. 2.

134-243

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	DMS	2\23\05
CHECKED-REVIEWED	RKC	
DESIGNS-DETAILED2	RKC	
DESIGNS-DETAILED3	DJM	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

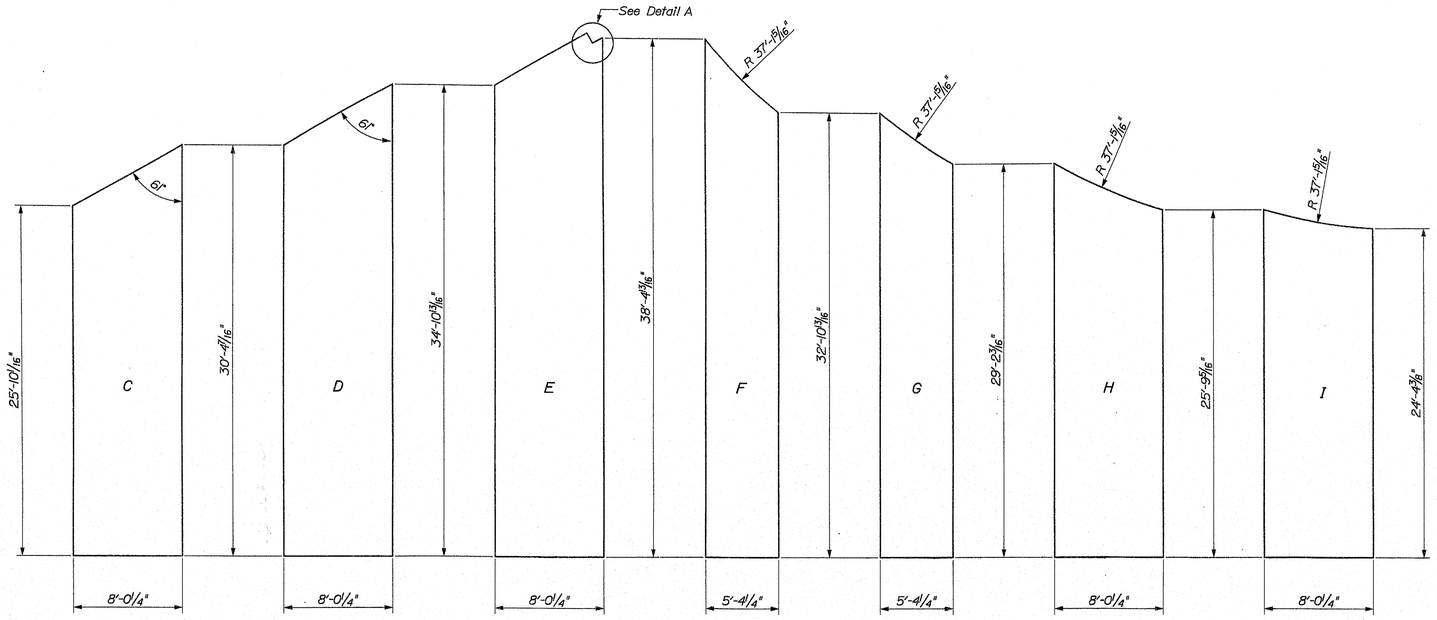
DECK PANEL LAYOUT

SHEET NUMBER

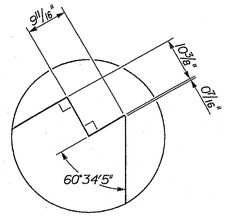
21

OF 46

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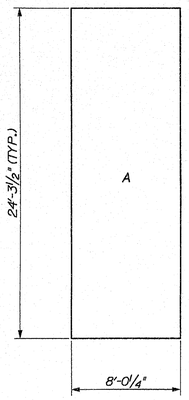


PANEL C PANEL D PANEL E PANEL F PANEL G PANEL H PANEL I

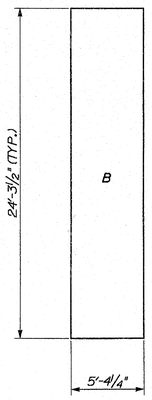


PANEL E DETAIL

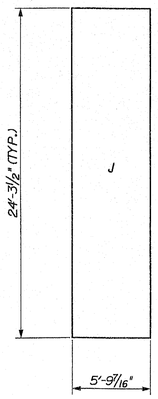
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B	5'-41/4" x 24'-31/2"	2
C	See Detail Sheet	1
D	See Detail Sheet	1
E	See Detail Sheet	1
F	See Detail Sheet	1
G	See Detail Sheet	1
H	See Detail Sheet	1
I	See Detail Sheet	1
J	5'-97/16" x 24'-31/2"	2
K	6'-3" x 24'-31/2"	456
L	4'-9" x 24'-31/2"	4
M	4'-63/4" x 24'-31/2"	2
N	See Detail Sheet	1
O	See Detail Sheet	1
P	See Detail Sheet	78
R	See Detail Sheet	78
S	See Detail Sheet	1
T	See Detail Sheet	1



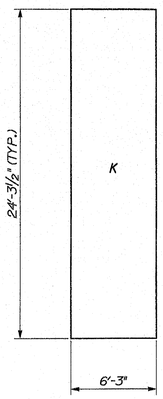
PANEL A



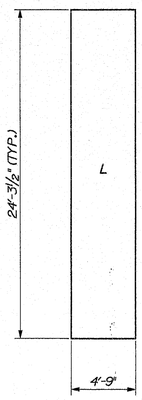
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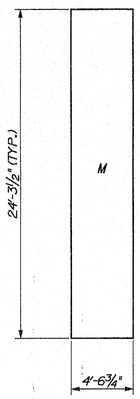
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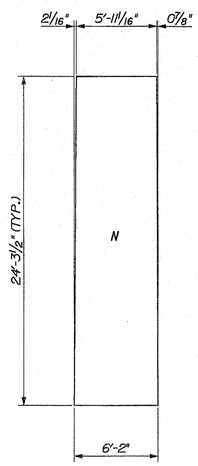
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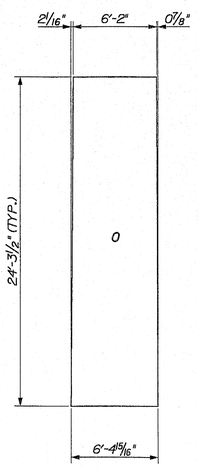
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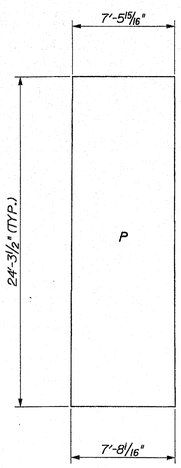
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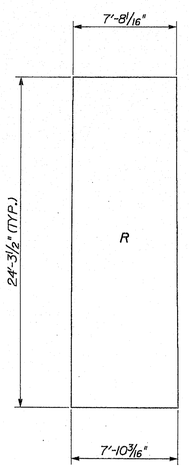
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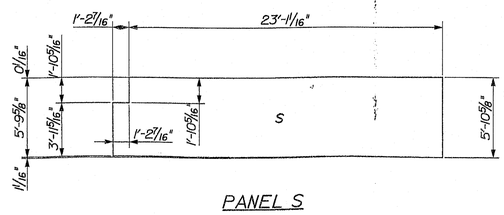
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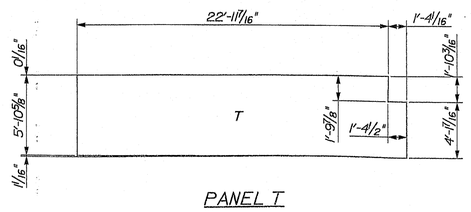
PANEL P



PANEL R



PANEL S



PANEL T

134-244

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

PROJ. MANAGER	WLF	BY
DESIGN-DETAILED	ETC	DMS
CHECKED-REVIEWED	----	RKC
DESIGN2-DETAILED2	----	RKC
DESIGN3-DETAILED3	----	GJN
REVISIONS 1	----	----
REVISIONS 2	----	----
REVISIONS 3	----	----
REVISIONS 4	----	----
FIELD CHANGES	----	----

DATE 2-23-05

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

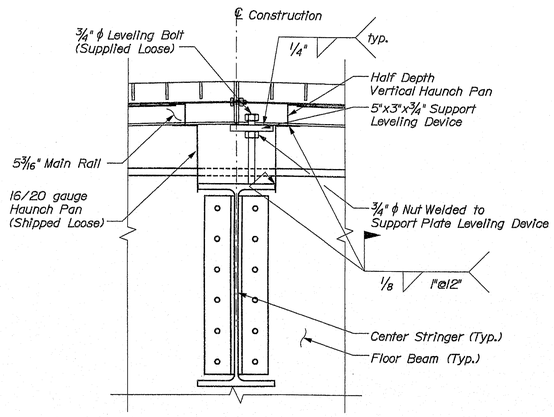
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SHEET NUMBER

22

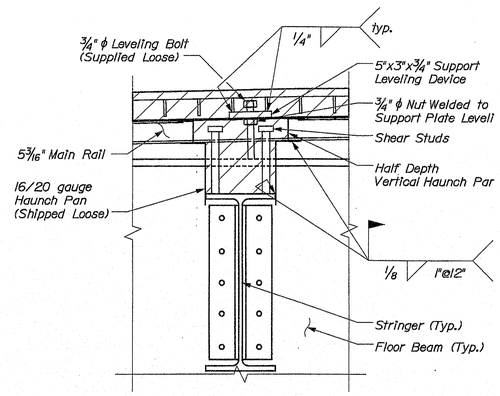
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Filename: ...\022_Deck_Panel_Details.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

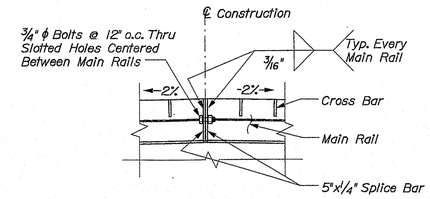


TYPICAL CENTER STRINGER LEVELING DEVICE DETAIL

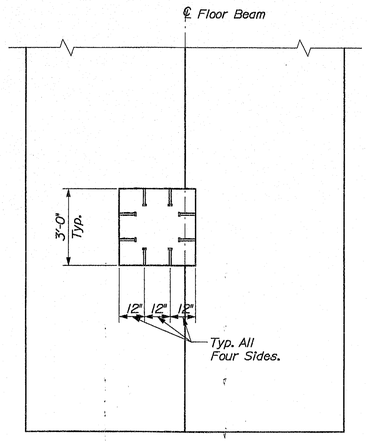
Shear Studs and Rebar not shown for Clarity



TYPICAL STRINGER LEVELING DEVICE DETAIL

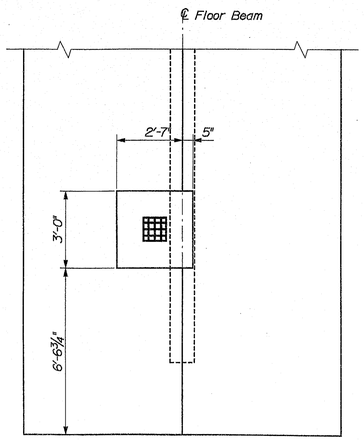


GRID CONNECTION DETAIL



STUD LOCATIONS FOR DRAIN CUT OUT

Typical at All Drain Locations. Generic Panels Shown.



PANEL CUT OUT FOR DRAINS

Typical at All Drain Locations. Generic Panels Shown.

134-245

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

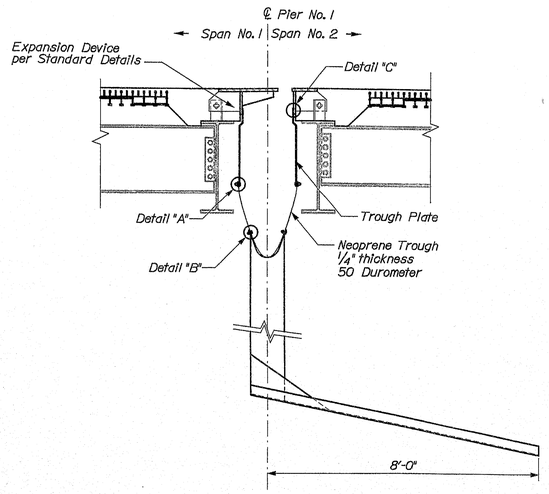
PROJ. MANAGER	WLF		
DESIGN-DETAILED	BY	DATE	
CHECKED-REVIEWED	DMS	2\23\05	SIGNATURE
DESIGN2-DETAILED2	RKC		
DESIGN3-DETAILED3	RKC		P.E. NUMBER
REVISIONS 1	BJW		
REVISIONS 2			
REVISIONS 3			DATE
REVISIONS 4			
FIELD CHANGES			

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

STEEL GRID DETAILS

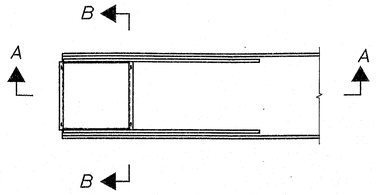
SHEET NUMBER 23 OF 46

Filename: ...\023_Steel_Grid_Details.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

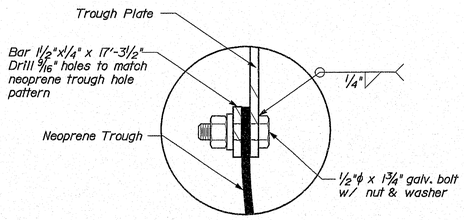


TROUGH AND DOWNSPOUT DETAIL

See sheet "Trough Details-Link" for Trough and Trough Plate details



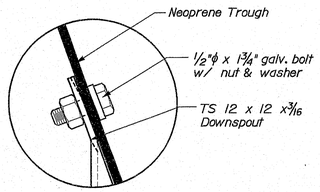
DOWNSPOUT PLAN - PIER NO. 1



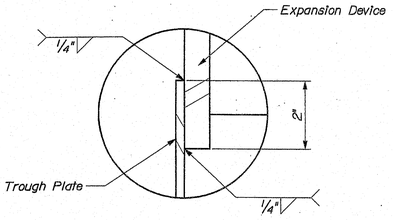
DETAIL "A"

FIELD WELDING NOTES

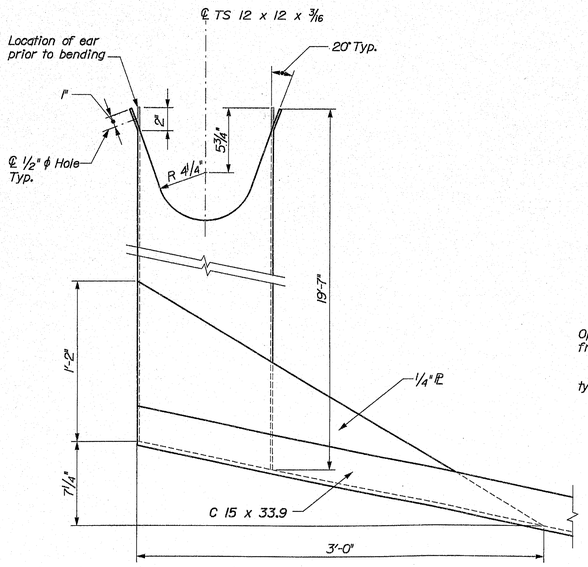
1. Remove galvanizing in areas where field welding is required.
2. Coat all field welds w/ two coats of zinc-rich paint (cold-galv)
3. Top-coat areas of existing steel where existing steel coating was compromised to match existing color.



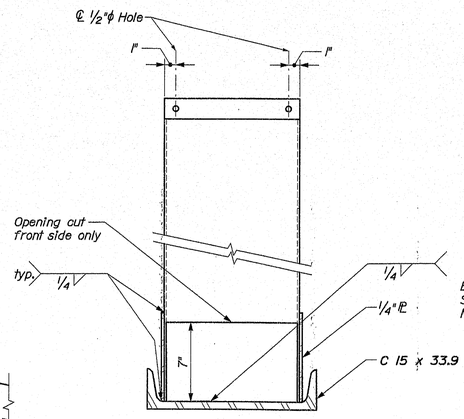
DETAIL "B"



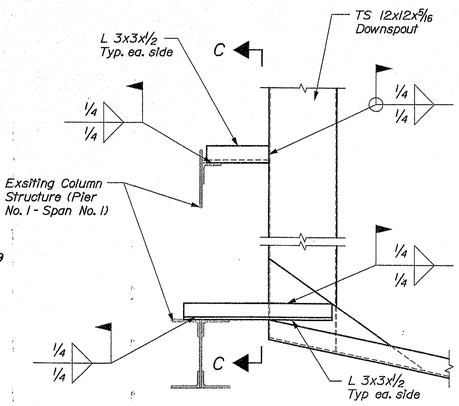
DETAIL "C"



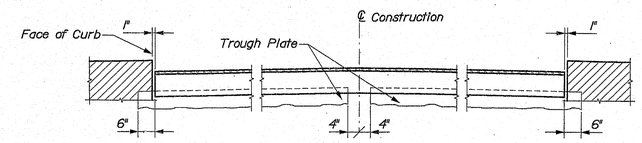
SECTION A-A



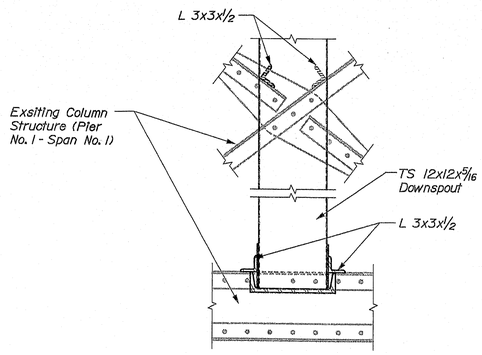
SECTION B-B



DOWNSPOUT CONNECTION



PARTIAL EXPANSION JOINT ELEVATION



SECTION C-C

134-246

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

P.E. NUMBER

DATE

SIGNATURE

W.L.F.	BY	DATE
PROJ. MANAGER	DMS	
DESIGN-DETAILED	ETC	2\23\05
CHECKED-REVIEWED	RKC	
DESIGN2-DETAILED2	RKC	
REVISIONS 1	BJM	
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

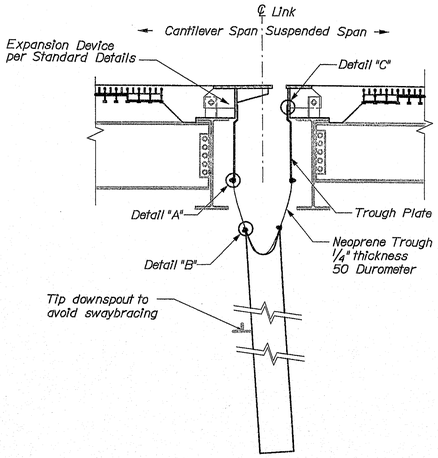
TROUGH DETAILS PIER No. 1

SHEET NUMBER

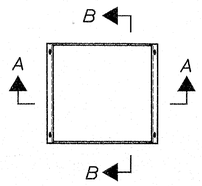
24

OF 46

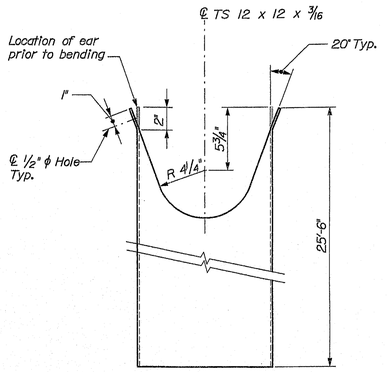
Filename: ...\024_Trough_Details_Pier1.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



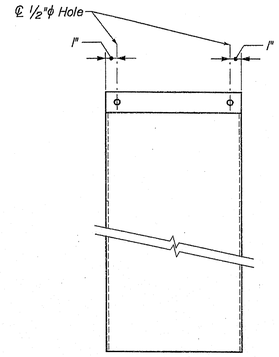
TROUGH AND DOWNSPOUT DETAIL



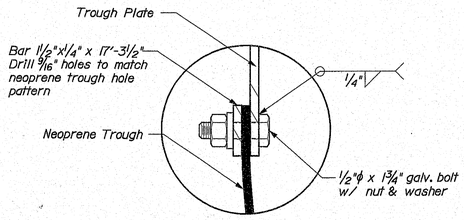
DOWNSPOUT PLAN



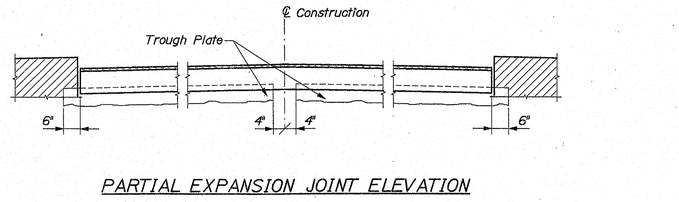
SECTION A-A



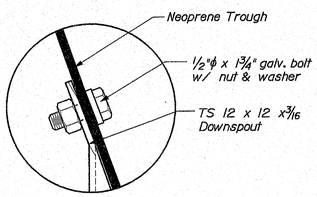
SECTION B-B



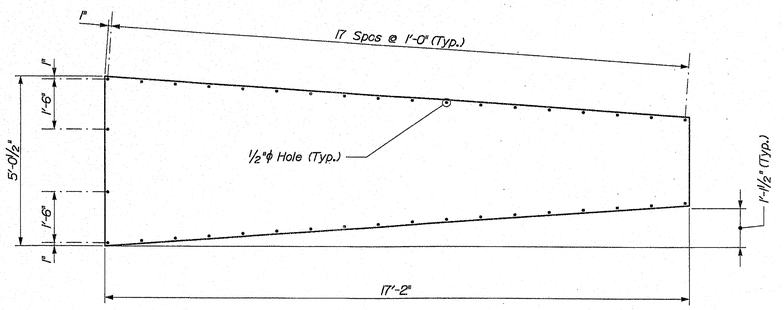
DETAIL "A"



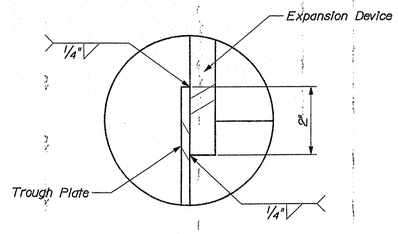
PARTIAL EXPANSION JOINT ELEVATION



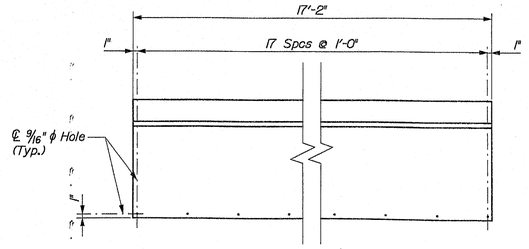
DETAIL "B"



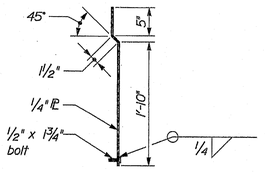
NEOPRENE TROUGH
Shown Flat



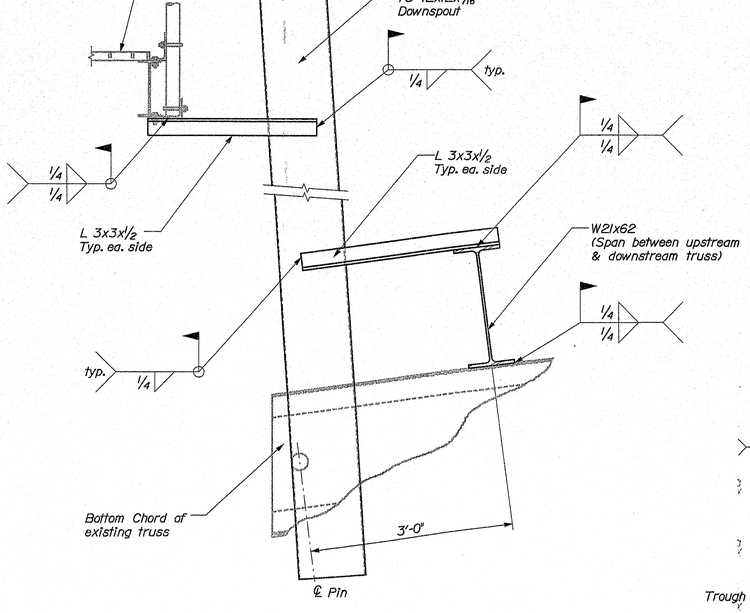
DETAIL "C"



TROUGH PLATE ELEVATION



TROUGH PLATE SECTION



DOWNSPOUT CONNECTION DETAIL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	DMS	2\23\05
CHECKED-REVIEWED	RKC	
DESIGN2-DETAILED2	RKC	
DESIGN3-DETAILED3	EJM	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

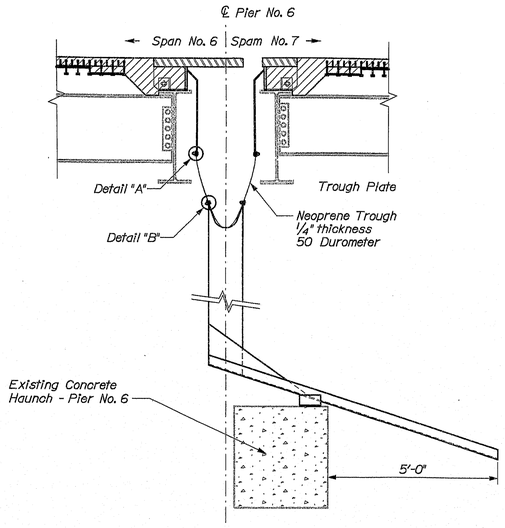
MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

TROUGH DETAILS-LINK

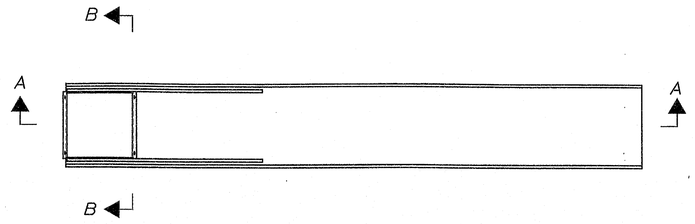
SHEET NUMBER
25
OF 46

134-247

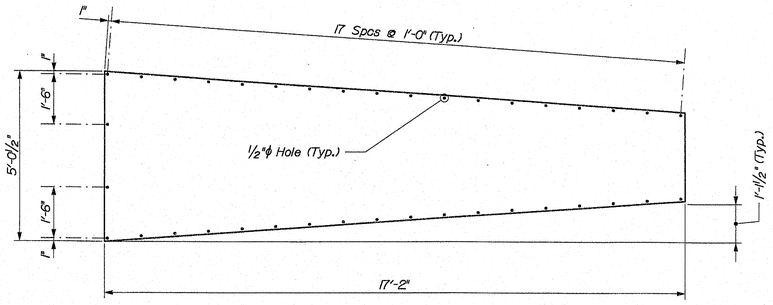
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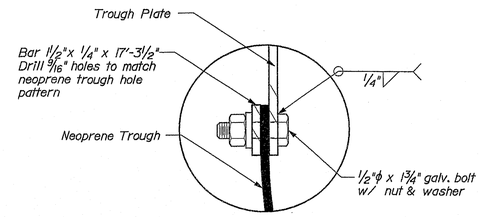
TROUGH AND DOWNSPOUT DETAIL



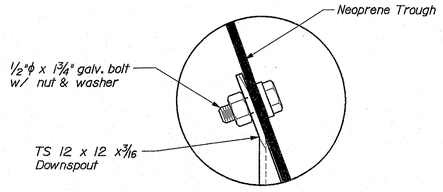
DOWNSPOUT PLAN



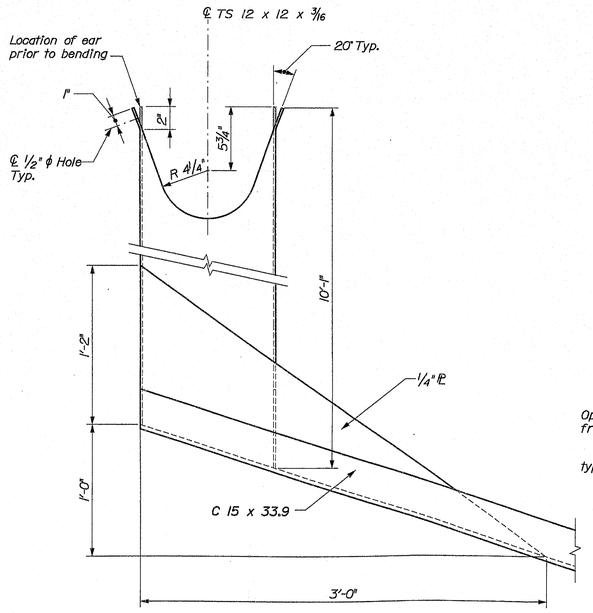
NEOPRENE TROUGH
(Shown flat)



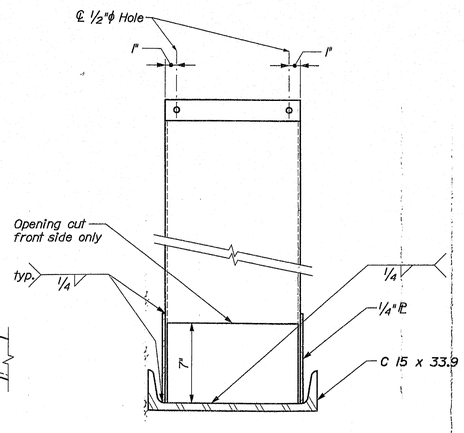
DETAIL "A"



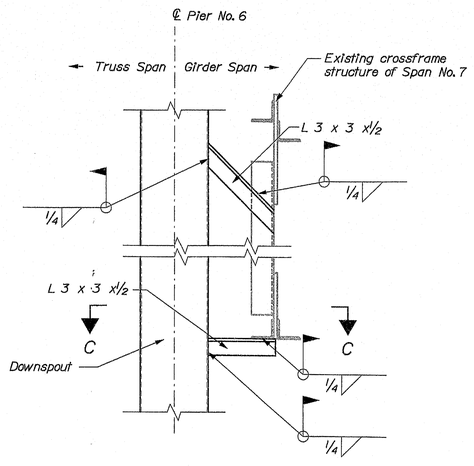
DETAIL "B"



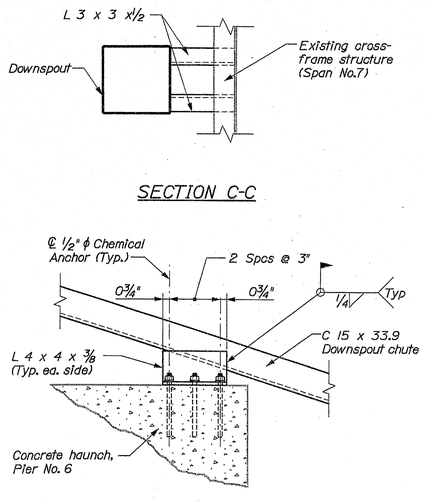
SECTION A-A



SECTION B-B



DOWNSPOUT CONNECTION DETAIL



CHUTE ANCHORING DETAIL

134-248

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5196

	W.F	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	ETC	DMS	2\23\05
CHECKED-REVIEWED		RKG	
DESIGN2-DETAILED3		RKG	
DESIGN3-DETAILED3		BJM	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

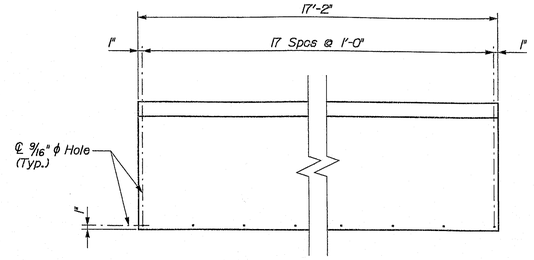
TROUGH DETAILS PIER NO. 6

SHEET NUMBER

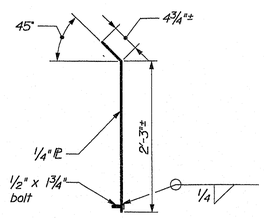
26

OF 46

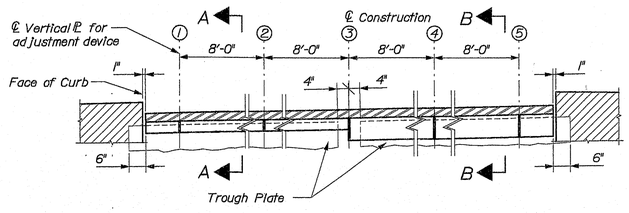
Filename: ...\026_Trough_Details_Pier6.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



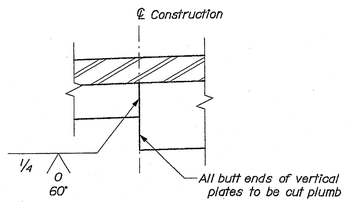
TROUGH PLATE ELEVATION



TROUGH PLATE SECTION

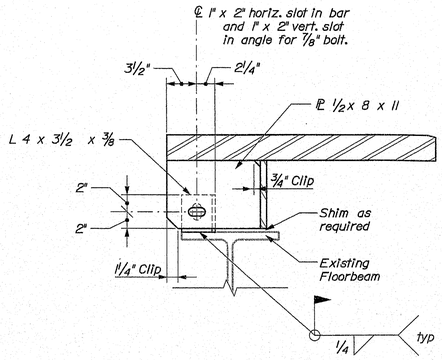


PARTIAL EXPANSION JOINT ELEVATION



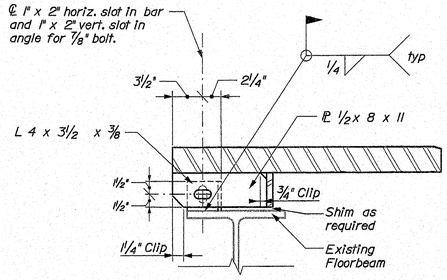
WELD DETAIL AT ℄ CONSTRUCTION

Vertical plate for adjustment device omitted for clarity



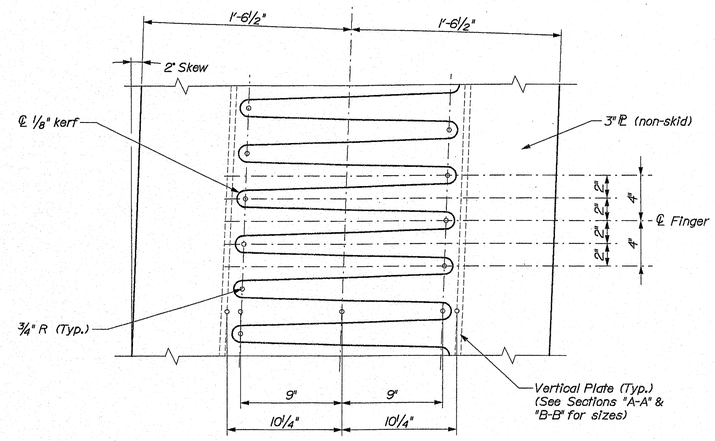
ADJUSTMENT DEVICE

Device at location "3" shown.
Locations "4" & "5" similar

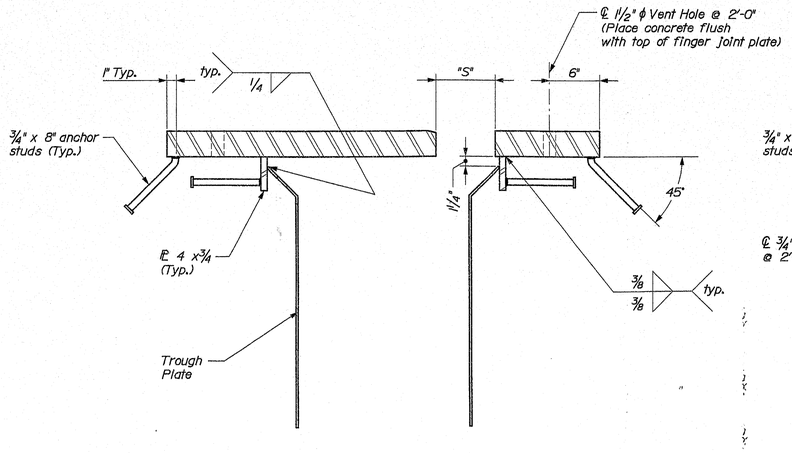


ADJUSTMENT DEVICE

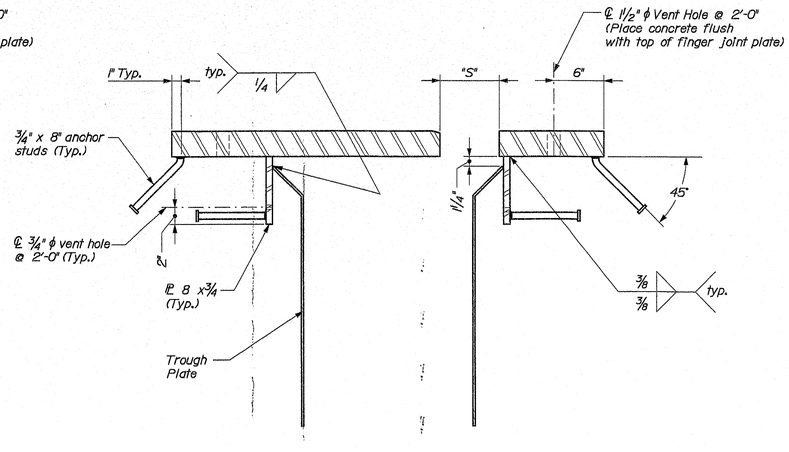
Device at location "1" shown.
Locations "2" similar



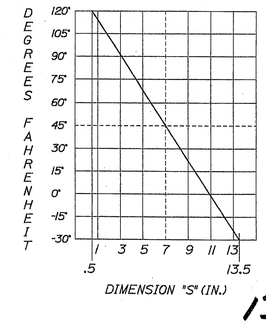
FINGER DETAIL



EXPANSION JOINT SECTION A-A



EXPANSION JOINT SECTION B-B



EXPANSION JOINT ADJUSTMENT CHART

134-249

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

	W.L.F.	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	ETC	DMS	2/23/05
CHECKED-REVIEWED		RKC	
DESIGN-DETAILED2		RKC	
CHECKED-REVIEWED2		DJM	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

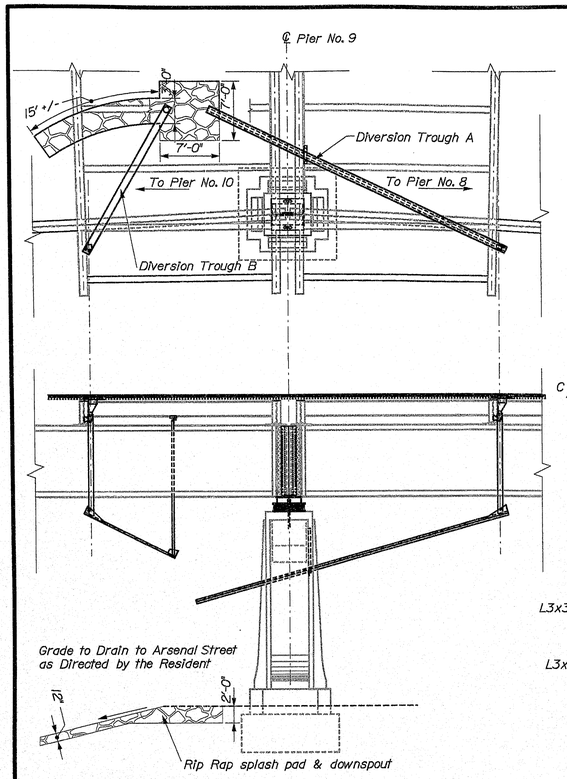
SUPERSTRUCTURE EXPANSION JOINTS - PIER NO. 6

SHEET NUMBER

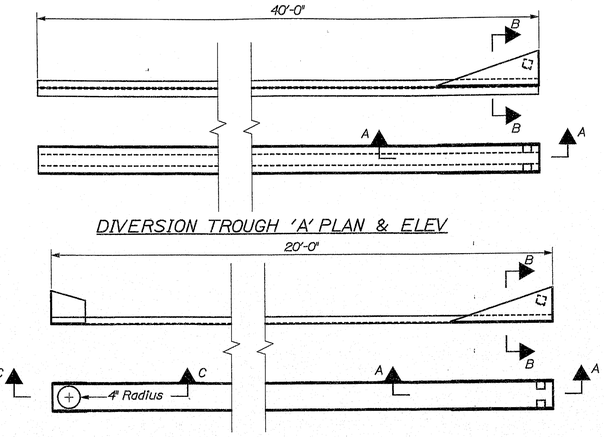
27

OF 46

Filename: ...\027_Superstructure_Expansion_Joint_Details.dgn Username: david.sullivan Date:3/3/2005

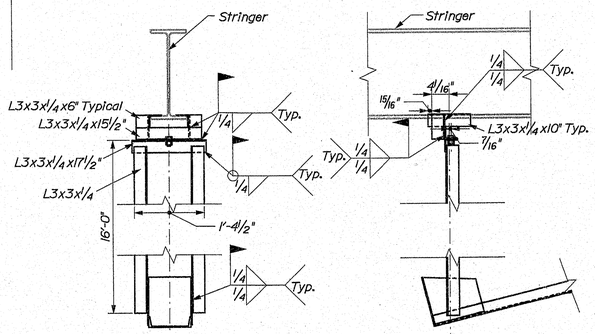


PIER NO. 9 DRAINAGE PLAN & ELEVATION



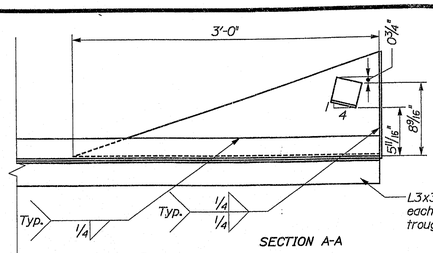
DIVERSION TROUGH 'A' PLAN & ELEV

DIVERSION TROUGH 'B' PLAN & ELEV

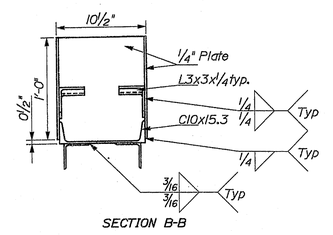


TROUGH 'B' HANGER
(view of trough is rotated approx. 60° about the Centerline of the bolt for clarity)

SIDE VIEW TR. 'B' END HANGER
(view of trough is rotated approx. 60° about the Centerline of the bolt for clarity)

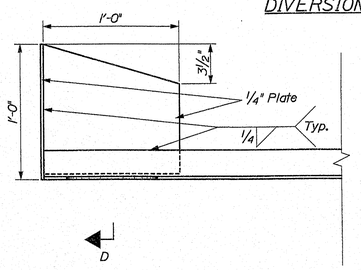


SECTION A-A

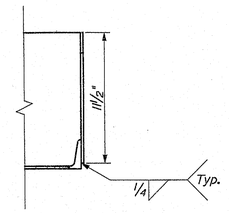


SECTION B-B

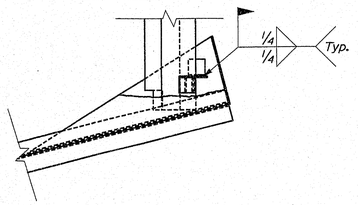
DIVERSION TROUGH DETAILS



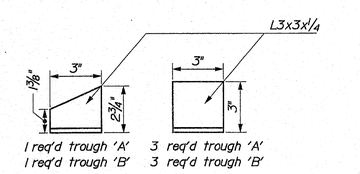
SECTION C-C



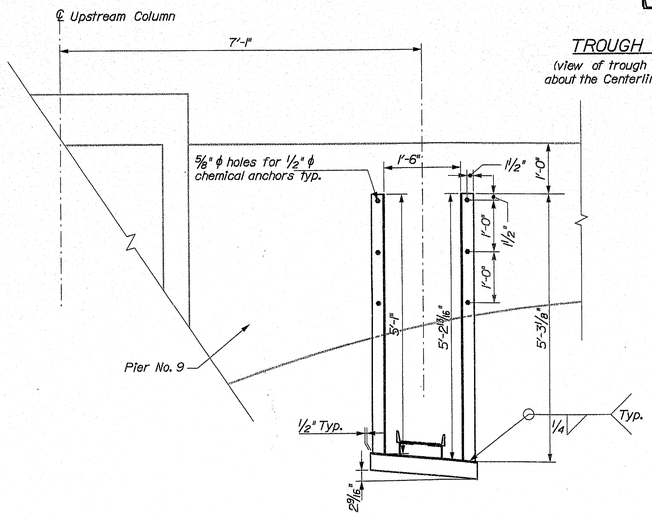
1/2 SECTION D-D



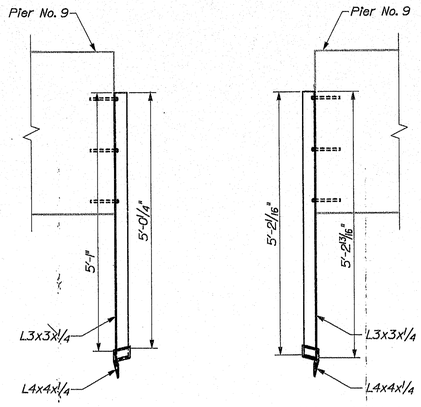
TROUGH/DOWNSPOUT CONNECTION VIEW/SECTION
(Trough 'A' Shown trough 'B' Similar)



CLIP ANGLE DETAILS



HANGER ASSEMBLY TROUGH A

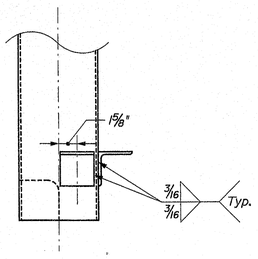


Trough not shown for clarity

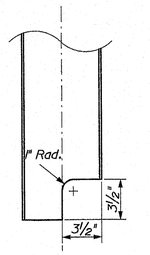
LEFT SIDE VIEW

Trough not shown for clarity

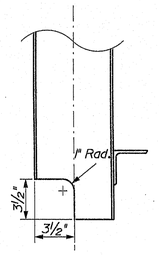
RIGHT SIDE VIEW



PIER NO. 9 DOWNSPOUT ELEVATION



SECTION E-E



SECTION F-F

NOTES

1. All steel and hardware required shall be hot dipped galvanized and top coated to match the color of the existing bridge in accordance with special provision 506.

2. All modifications to downspouts required for the diversion trough connections including the two clip angles shop welded to the troughs shall not be paid for directly, but shall be considered incidental to related contract items.

3. All Labor, equipment, materials, and consumables required to acceptably complete the work of fabricating and installing the diversion troughs, shall be considered paid for under item no. 504.8182, Modified Welded Deck Drain.

4. All Labor, equipment, materials, and consumables required to acceptably excavate for, grade and place RipRap, including disposal of waste material, regrading around the splash pad, and redressing the area with bark mulch at a minimum thickness of 6 inches around the splash pad shall be considered paid for under item number 610.08, Plain RipRap.

5. Remove galvanizing and topcoat as necessary prior to field welding. Coat all field welds with a zinc rich paint, then topcoat with touch up paint to match top coat.

134-250

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

	INITIALS	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	BY	
CHECKED-REVIEWED	ETC	
DESIGN2-DETAILED2	DMS	2\23\05
DESIGN3-DETAILED3	RKC	
REVISIONS 1	RKC	
REVISIONS 2	BJH	
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

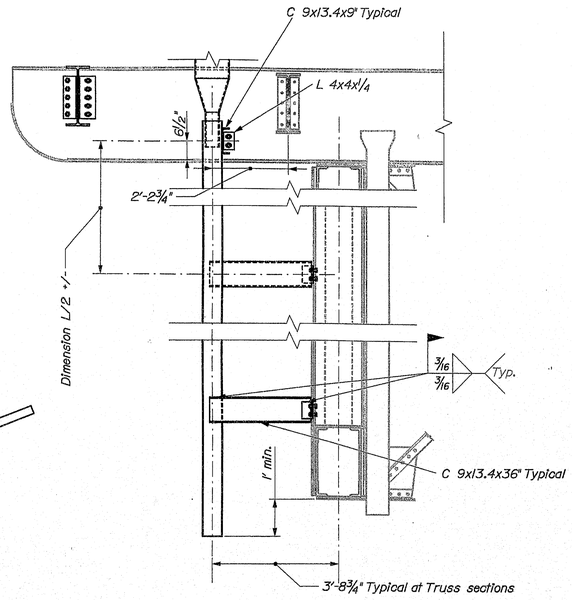
DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

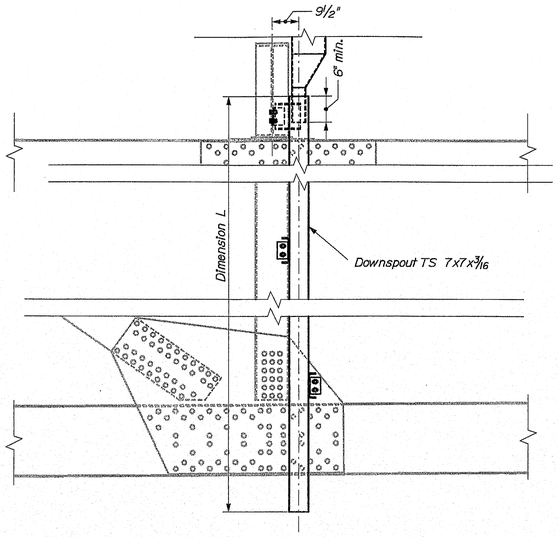
PIER No. 9 DRAINAGE DETAILS

SHEET NUMBER
28
OF 46

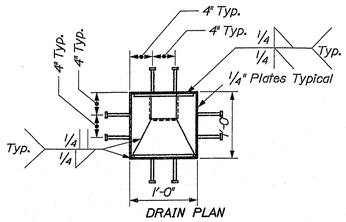
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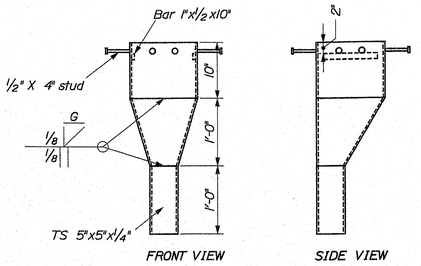
TRUSS DRAIN LOCATION TRANSVERSE SECTION



TRUSS DRAIN LOCATION ELEVATION

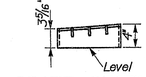


DRAIN PLAN

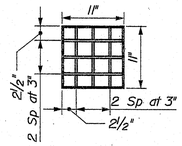


FRONT VIEW SIDE VIEW

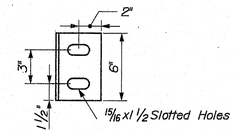
DRAIN DETAILS



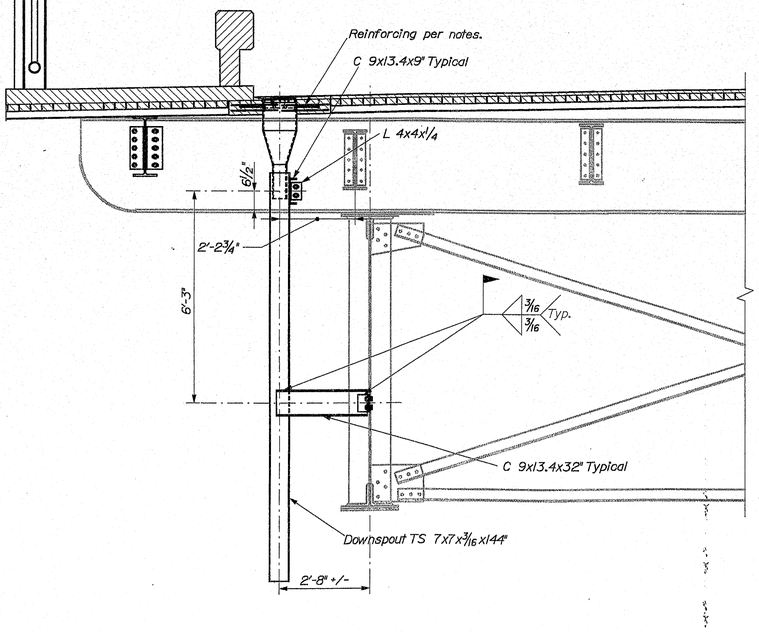
GRATE SECTION



GRATE PLAN

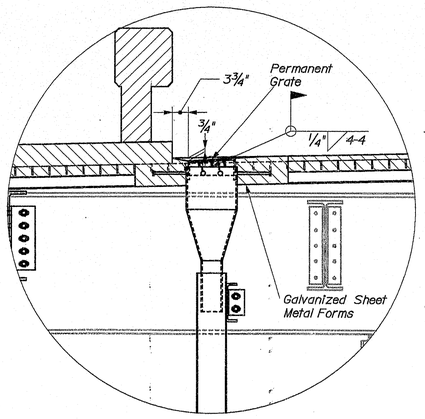


CONNECTION ANGLE DETAIL



GIRDER DRAIN LOCATION TRANSVERSE SECTION

DRAIN	LENGTH -"L"	NO. REQ'D	COMMENTS
Drain D-1	22'-11"	3	These are the first and last set of drains on the Truss.
Drain D-2	25'-6"	8	Approximately 25' from a pin hanger on the suspended span
Drain D-3	39'-3"	8	Approximately 50' from a pin hanger on the Anchor or cantilevered span
Drain D-4	37'-1"	8	Approximately 50' from the piers on the Anchor spans
Drain D-5	23'-10"	8	Located toward the midspan of the two anchor spans
Drain D-6	12'-0"	9	Located on the girder spans



DRAIN INSTALLATION DETAILS

Reinforcing not shown for clarity

NOTES

1. Each bridge drain consists of one collector with two grates and one downspout with associated connection angles and standoff brackets as well as all galvanized metal formwork required for the 3'x3' bondout, and 8 - #5 bars as required under note #9. The cost of fabrication, delivery, and installation of each bridge drain including topcoat and touch up shall be considered incidental to prefabricated deck panels.

2. Materials shall conform to Subsection 711.04 of the standard specifications.

3. Grating shall be a commercial heavy - duty grating with 1 1/2"x5/16" bearing bars and 3/8" ϕ cross bars.

4. Bolted connections shall be made using A325 -7/8" ϕ bolts. Holes required in existing members shall be drilled to 15/16" ϕ.

5. The exact location of the drains may be varied slightly to accomodate the spacing of the main bearing bars in the decking grid.

6. Remove galvanizing as necessary prior to field welding the permanent grate.

7. Coat all field welds with an approved zinc - rich paint after welding.

8. All drain downspouts shall be topcoated to match the color of the existing bridge after galvanizing in accordance with special provision section 506. All standoff brackets, connection angles, grate, and drains may remain galvanized, with no topcoat.

9. Install 8 #5 bars 1' - 11" long at each drain location. Bars are to be installed 2 at each corner at 45° to the drain centerline.

10. The two drain downspouts located approximately 25 ft. either side of pier no. 9, that pier immediately West of Arsenal street, shall be fitted with diversion channels as indicated on the pier no. 9 Drainage Details Sheet. These downspouts must be modified in accordance with the details shown on the Pier no. 9 Drainage Details Sheet.

134-251

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5186

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	ETC	
CHECKED-REVIEWED	----	
DESIGN2-DETAILED2	----	
DESIGN3-DETAILED3	----	
REVISIONS 1	DMS	2\23\05
REVISIONS 2	RKC	
REVISIONS 3	RKC	
REVISIONS 4	BJN	
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

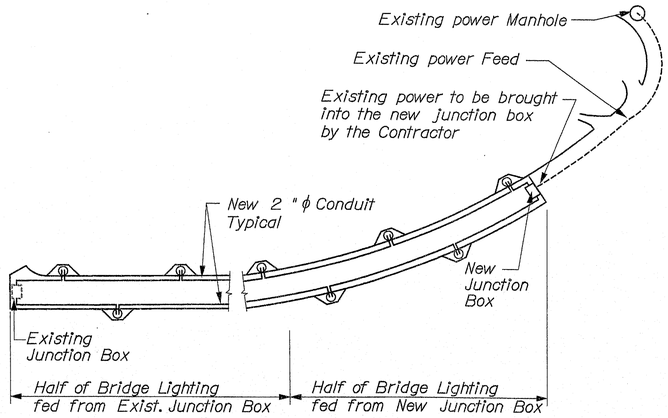
DRAIN DETAILS

SHEET NUMBER

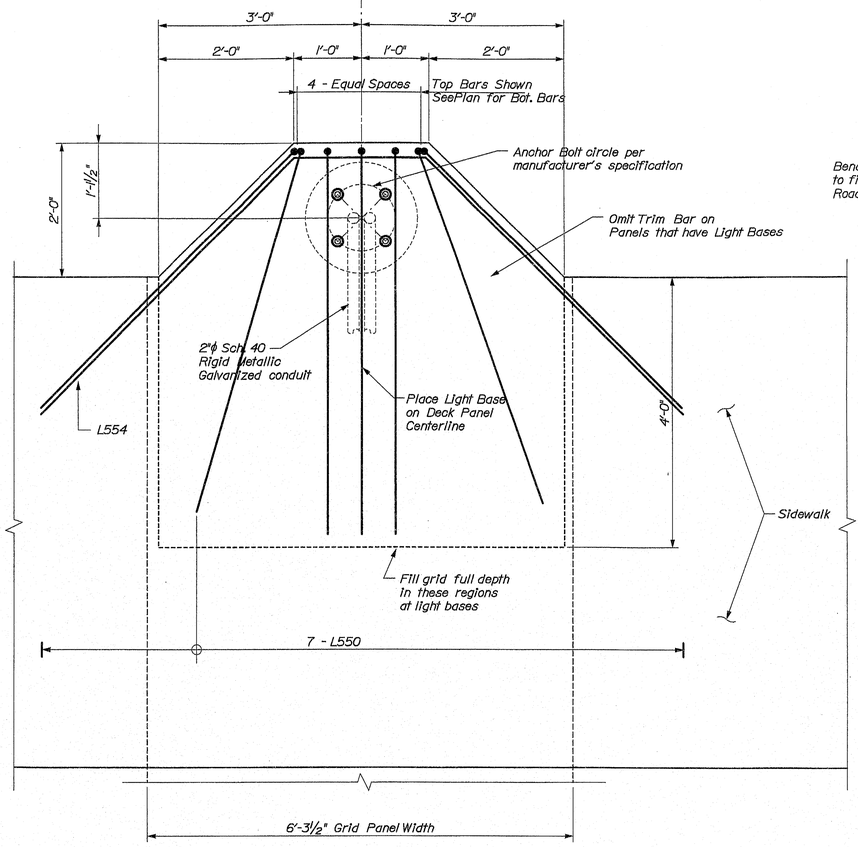
29

OF 46

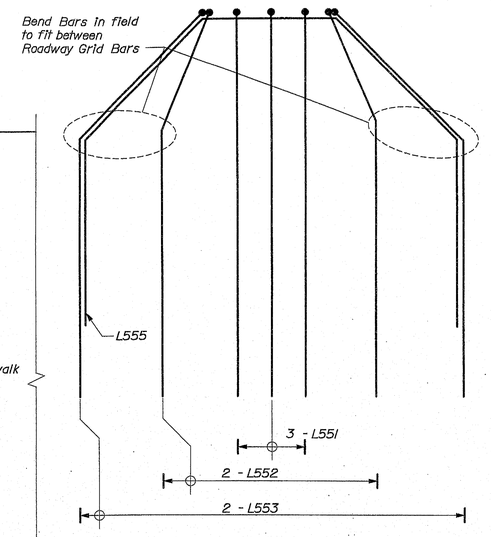
Filename: ...\mstx\029_Drain_Details.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



PLAN



PLAN LIGHT POST BASE



BOTTOM MAT OF REINFORCING

GENERAL NOTES - HIGHWAY LIGHTING, AUGUSTA, MEMORIAL BRIDGE

1. INSTALL LIGHTING ON THE BRIDGE STRUCTURE.

2. LUMINAIRES SHALL BE KING LUMINAIRE, K804-EGD-III-250-MH-240-PL, IES CUTOFF OPTICS, IES TYPE 3 DISTRIBUTION, GLASS REFRACTOR, 250 WATT, METAL HALIDE, IES TEST NO. K83- 7792.IES. THE PLANS WERE DESIGNED WITH THE THIS FIXTURE. IF DIFFERENT LUMINAIRES ARE PROPOSED THE CONTRACTOR MUST DEMONSTRATE THAT THE PROPOSED LUMINAIRES WILL MEET OR EXCEED DESIGN LIGHT LEVELS.

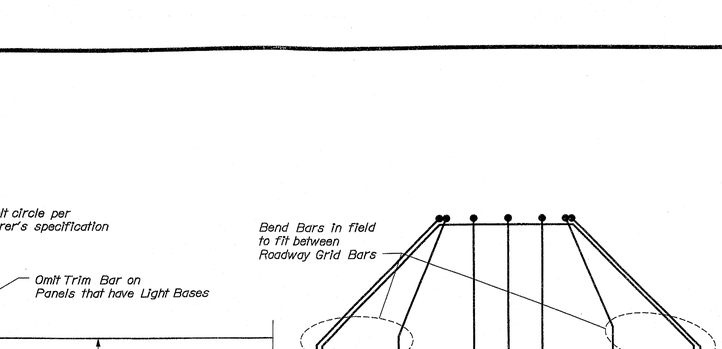
3. THE LUMINAIRES SHALL BE 30 FEET ABOVE THE ROADWAY. THE POLES SHALL BE OR SIMILAR TO KING LUMINAIRE, CATALOG NO. KMFF C/W KSBI9 WITH 6 FOOT ARM, KA3IS. EACH POLE SHALL BE EQUIPPED WITH A VIBRATION DAMPENER. POLES MAY BE EITHER GALVANIZED STEEL OR ALUMINUM OR A COMBINATION THEREOF.

4. ALL WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS, STANDARD DETAILS AND SUPPLEMENTALS THERETO.

5. THE NEW LIGHTING SHALL BE POWERED FROM THE EXISTING SERVICES. SPLICE INTO EXISTING WIRING OR RUN NEW WIRE TO EXISTING SERVICES. INSTALL JUNCTION BOXES IF NECESSARY.

6. INSTALL 2 INCH METALIC CONDUIT IN THE BRIDGE STRUCTURE. INSTALL APPROPRIATE EXPANSION DEVICES.

7. ITEM NO. 634.160 SHALL INCLUDE THE POLES, CROSSARMS, LUMINAIRES AND ALL INCIDENTALS FOR A FUNCTIONING SYSTEM.

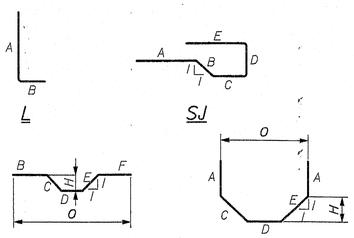


Note - Attach conduit per code and manufacturers recommendations

SECTION THROUGH LIGHT POST BASE

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	H	O	LOCATION
L550	147	6'-5"	L	9"	5'-8"	-	-	-	-	-	Lightpost Corbel
L551	63	6'-6"	SJ	3'-11½"	2⅛"	1'-7½"	9"	-	-	-	Lightpost Corbel
L552	42	7'-2½"	SJ	3'-10"	2⅛"	2'-5½"	9"	-	-	-	Lightpost Corbel
L553	42	6'-6½"	SJ	3'-7"	2⅛"	1'-8½"	9"	-	-	-	Lightpost Corbel
L554	21	12'-7"	M	-	-	5'-4½"	1'-10"	5'-4½"	3'-9⅝"	-	Lightpost Corbel
L555	21	12'-7"	MV	2'-9"	-	2'-7½"	1'-10"	2'-7½"	1'-10½"	5'-7½"	Lightpost Corbel



LIGHT POST BASE REINFORCING STEEL SCHEDULE

Reinforcing will be paid under Items 503.12 nad 503.13

134-252

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5196

	WLF	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	ETC	DMS	2/23/05
CHECKED-REVIEWED		RKG	
DESIGN2-DETAILED2		RKG	
DESIGN3-DETAILED3		BJN	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

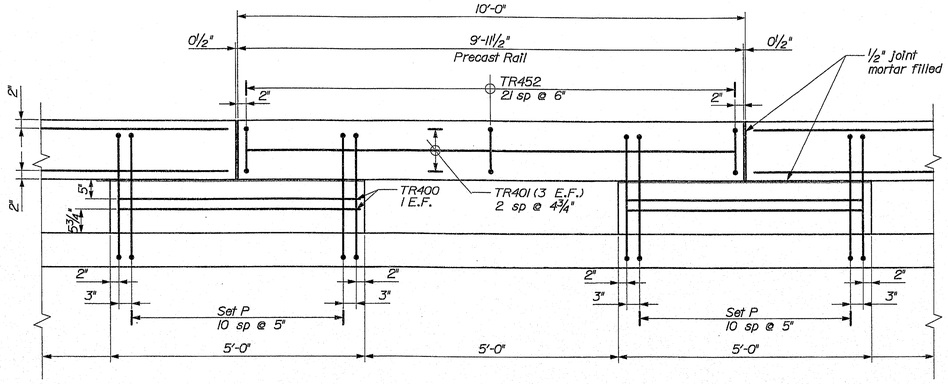
DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

LIGHTING DETAILS

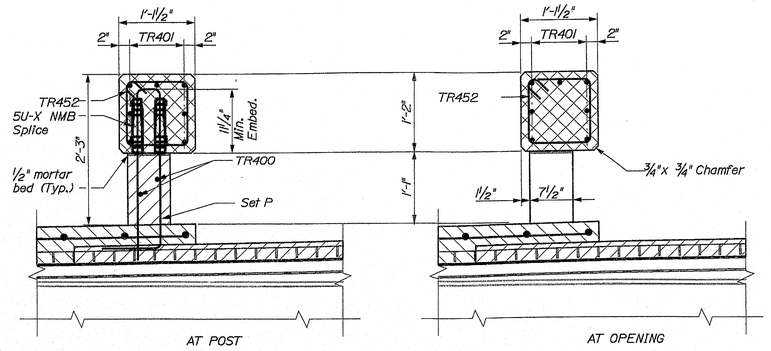
SHEET NUMBER 30 OF 46

Filename: ...\mstd\030_Lighting_Details.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

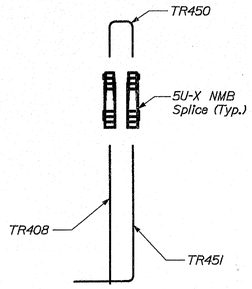


ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT

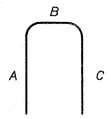
Precast shown, Cast in Place similar (except for "Set P", use TR453 for Cast in Place)



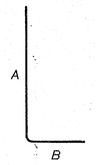
TRAFFIC RAIL BARS														
MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
TR400	822	4'-8"												post longitudinal (5'-0")
TR401	2 863	9'-8"												rail longitudinal (10'-0")
TR402	28	9'-2"												rail longitudinal (9'-6")
TR403	14	5'-11"												rail longitudinal (6'-3")
TR404	14	5'-3"												rail longitudinal (5'-7 1/2")
TR405	14	5'-2"												rail longitudinal (5'-6")
TR406	14	5'-0"												rail longitudinal (5'-4 1/2")
TR407	28	4'-11"												rail longitudinal (5'-3")
TR408	5 525	2'-0"												post vertical
TR409	24	2'-2"												post longitudinal (2'-6")
TR420	12	4'-8"												post longitudinal (5'-0")
TR421	2	5'-1"												post longitudinal (5'-5")
TR422	2	2'-2"												post longitudinal (2'-6")
TR423	7	40'-0"												rail longitudinal (cip)
TR424	7	35'-0"												rail longitudinal (cip)
TR450	5 525	6'-5"	PA	0'-6"	0'-4"	0'-6"								post reinforcement
TR451	5 525	1'-9 1/2"	PB	1'-10 1/2"	0'-11"									post reinforcement
TR452	9 333	3'-10"	H	0'-3"	0'-10"	0'-10"	0'-10"	0'-10"	0'-3"					rail stirrup (9 174 precast; 159 cip)
TR453	99	6'-7"	PA	2'-7"	0'- 6"	2'-7"								post vertical (cip)



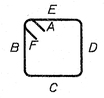
Set Z



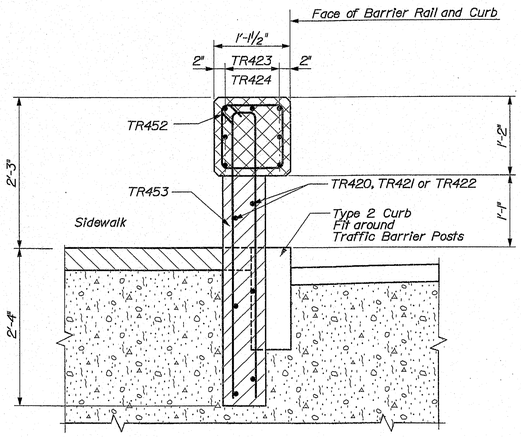
PA



PB



H



AT CAST IN PLACE

SECTIONS THRU RAIL

BARRIER NOTES:

1. *Precast Concrete Barrier is comprised of the following parts concrete parapet, cast in place concrete posts, all reinforcing shown, including that embedded in the filled grid; These are considered Paid for under work Item No. 526.51*
2. *All steel components, except reinforcing, shall be hot dipped galvanized unless otherwise shown on plans.*
3. *Chamfer all exposed corners, 3/4" chamfer.*
4. *All reinforcing shall be Grade 60.*
5. *Face of rail and parapet shall be vertical. Openings shall have end faces perpendicular to adjacent roadway grade.*
6. *All grout tubes for NMB Couplers shall to the sidewalk face of rail.*

134-253

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5196

	BY	DATE
DESIGNED	WLF	
DETAILED	ETC	
CHECKED	DMS	2\23\05
REVIEWED	RKC	
QUALITY CONTROL	RKC	
QUALITY ASSURANCE	BJN	

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGNS-DETAILED2
DESIGNS-DETAILED3
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

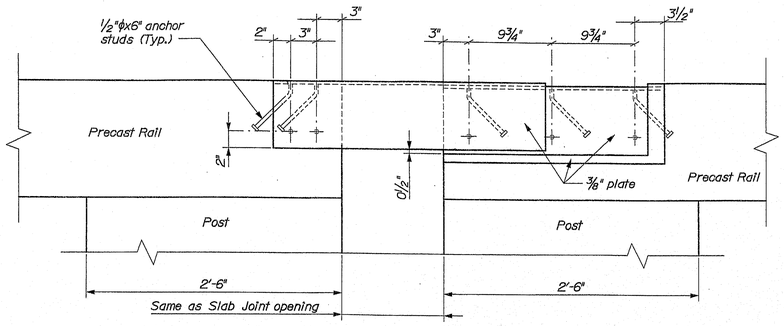
TRAFFIC BARRIER

SHEET NUMBER

31

OF 46

Filename: ...\msta\031_Traffic_Barrier.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

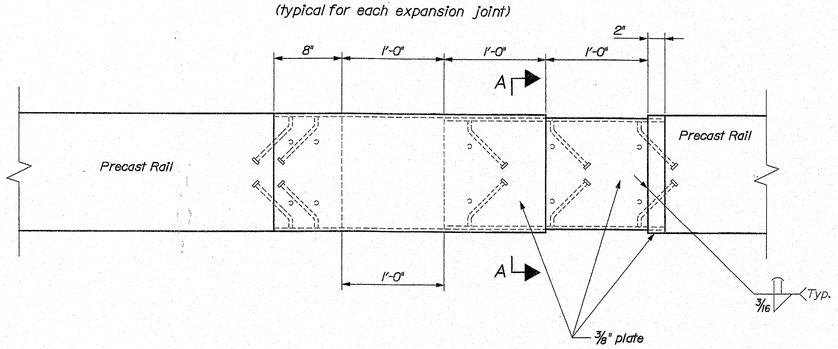


Post note - If Rail segment is = 8'-0" combine with adjacent post such that no opening between posts within an expansion length is less than 3'-0".

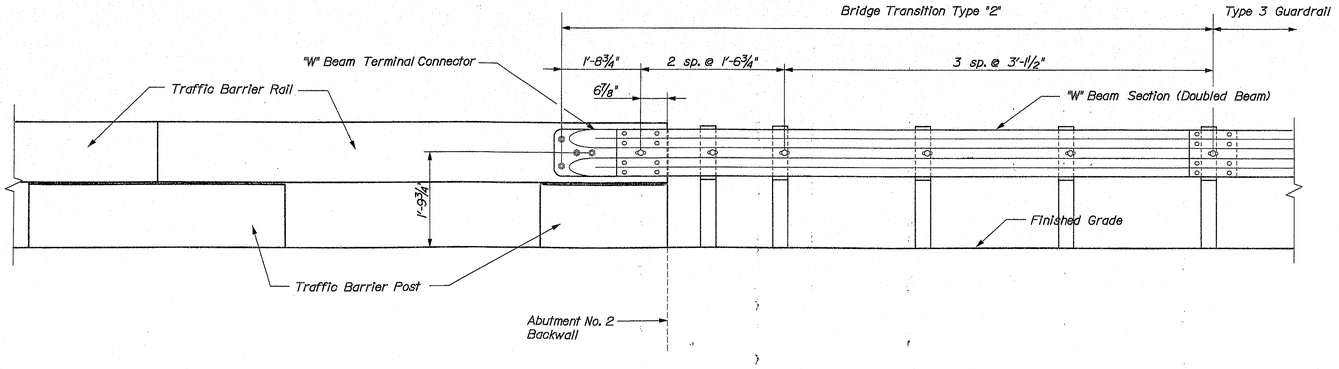
Expansion Joint - See Chart on Superstructure Expansion Joint Sheet for setting dimensions All Three expansion joints are using this configuration for the Traffic Barrier Rail expansion joint (that is they all will have 12" of movemnet whether or not they need it)

EXPANSION JOINT ELEVATION

(typical for each expansion joint)

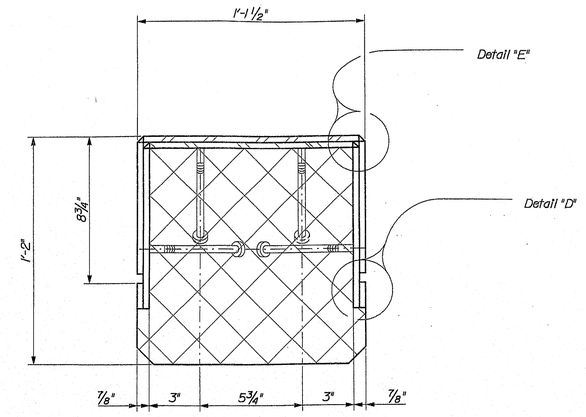


EXPANSION JOINT PLAN

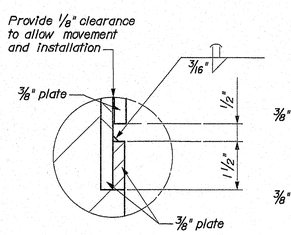


BRIDGE TRANSITION TYPE "2"

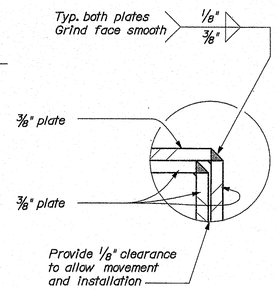
(at Abut. 2 only)



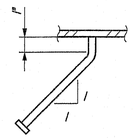
SECTION A-A



DETAIL "D"



DETAIL "E"



BENT STUD DETAIL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196 — BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	ETC	2\23\05
CHECKED-REVIEWED		
DESIGN2-DETAILED2	DMS	
DESIGN3-DETAILED3	RWG	
REVISIONS 1	RWG	
REVISIONS 2	BJN	
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

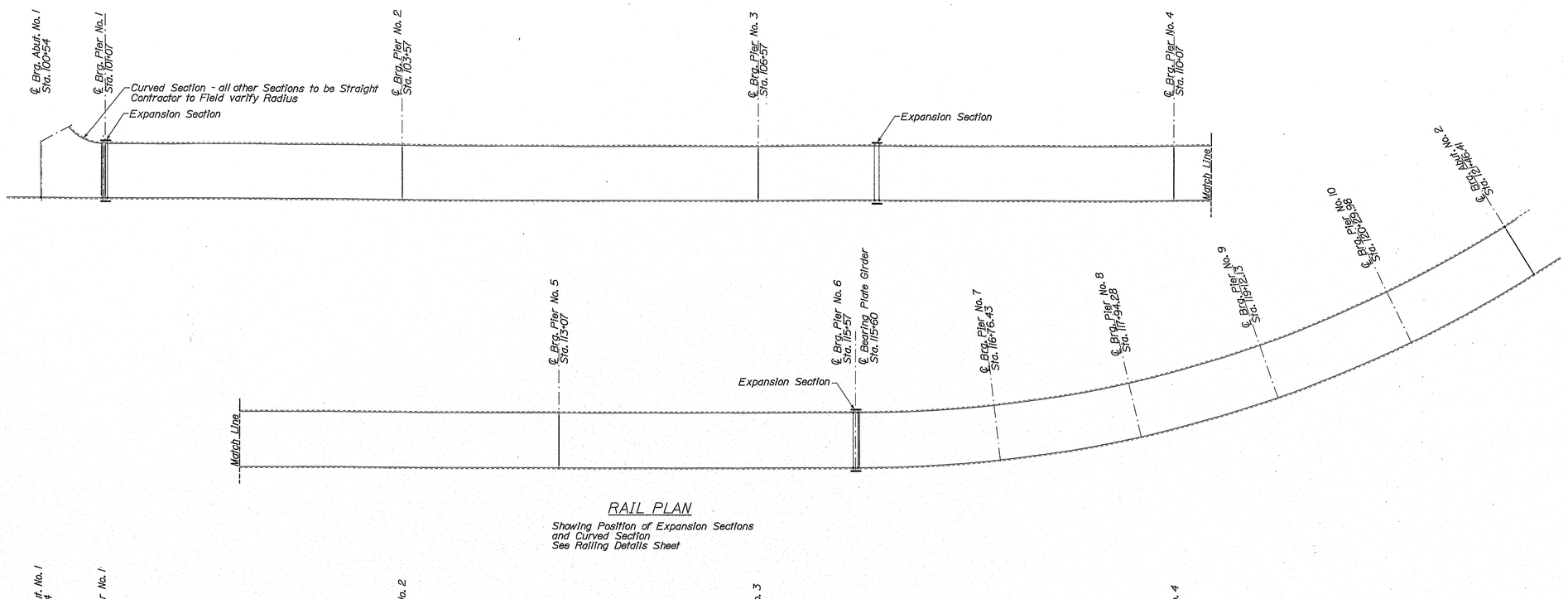
MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

TRAFFIC BARRIER
EXPANSION DETAILS

SHEET NUMBER
32
OF 46

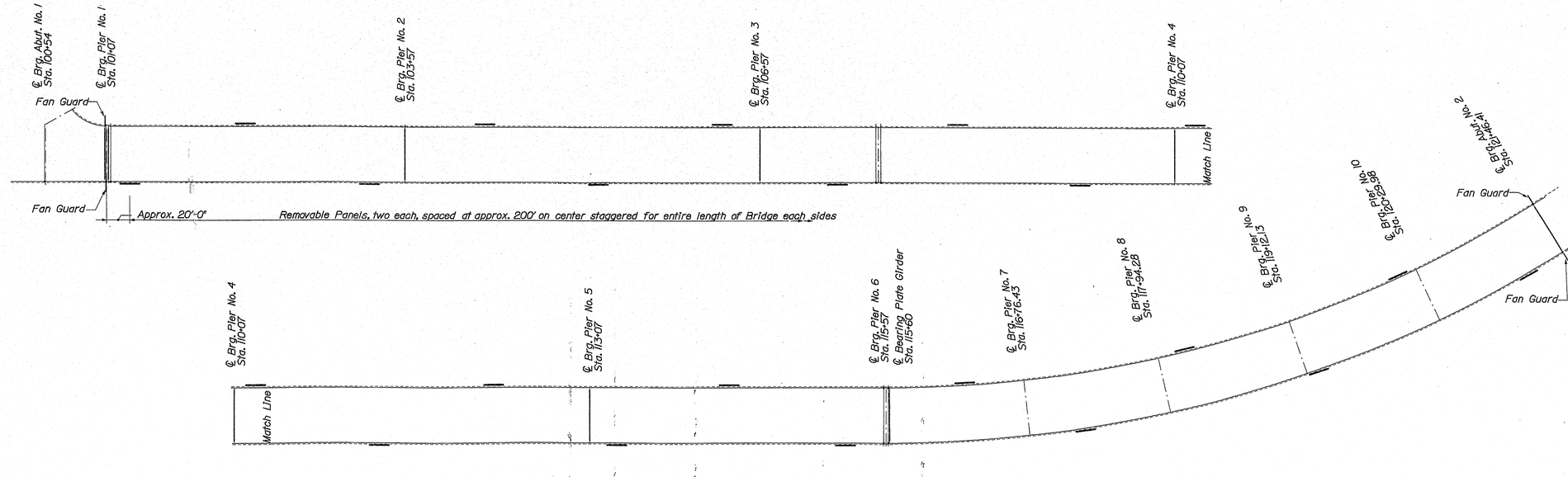
134-254

Filename: ...\032_Traffic_Barrier_Exp_Details.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



RAIL PLAN

Showing Position of Expansion Sections
and Curved Section
See Railing Details Sheet



SAFETY FENCE PLAN

Showing Position of Maintenance Access Panels.
They are removable panels (2 each) at a max. of
approx. 100' spacing both sides of Bridge.
Also shown are the position of the Bridge end Fan Guards.
See Safety Fence Details Sheet

134-255

PROJ. MANAGER	WLF	BY	DATE
DESIGN-DETAILED	ETC	DMS	
CHECKED-REVIEWED		RKG	2\23\05
DESIGN2-DETAILED2		RKG	
DESIGN3-DETAILED3		BJN	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196 — BRIDGE PLANS

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

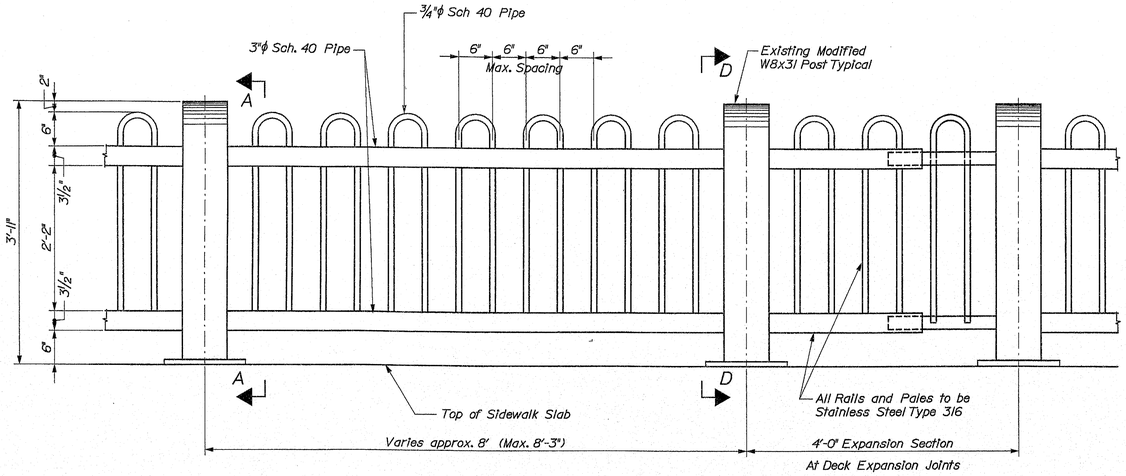
RAIL AND SAFETY FENCE PLANS

SHEET NUMBER

33

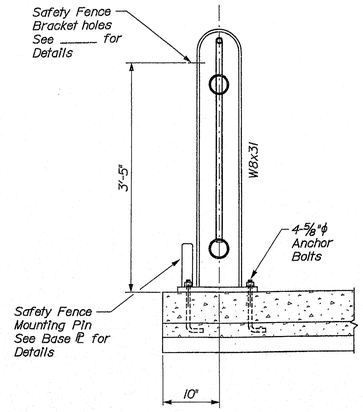
OF 46

Filename: ...\033_Rail_&_Safety_Fence_Plan.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



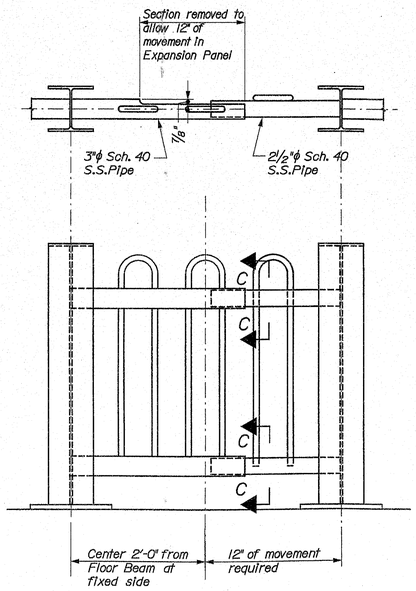
RAIL ELEVATION DETAIL

All rail sections to be straight except as noted on Rail and Safety Plan. All post and pales to be vertical. All rail posts to be set normal to ℄. All rail connections to be sliding fit after galvanizing. Railings sections to be Stainless Steel Type 316 at Expansion sections only.



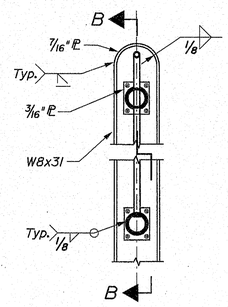
It is anticipated that the existing Pedestrian rail posts can be modified for reuse for the new rail system. Any existing posts that can not be reused and any posts that are needed to make up the total for the new rails system shall be the exact size and fabrication as the existing posts.

SECTION D-D

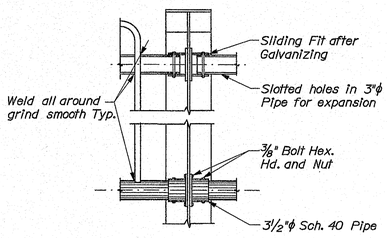


EXPANSION PANEL ELEVATION

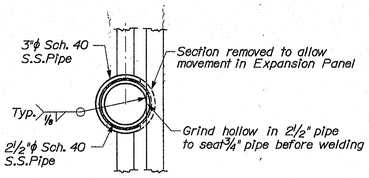
All Rails and Pales to be Stainless Steel Type 316



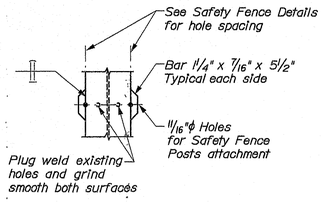
SECTION A-A



SECTION B-B

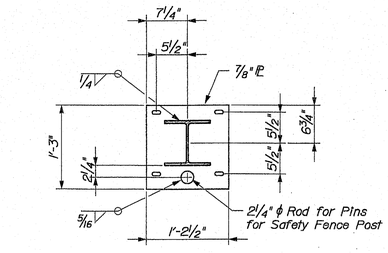


SECTION C-C



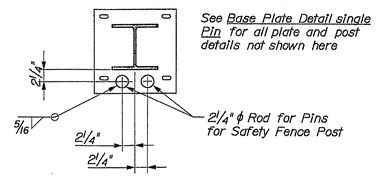
SAFETY FENCE POST ATTACHMENT HOLES MODIFICATION

For Double Pin Rail Posts



BASE PLATE DETAIL with SINGLE PIN

Single Safety Fence Post pin shown



BASE PLATE DETAIL with DOUBLE PIN

Double Safety Fence Post pins shown
See Safety Fence Plan for Number of Double Pin Bases

134-256

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	WLF	
DESIGN-DETAILED	ETC	
DESIGNED-REVISED	----	2\23\05
DESIGN2-DETAILED2	----	----
DESIGN3-DETAILED3	----	----
REVISIONS 1	----	----
REVISIONS 2	----	----
REVISIONS 3	----	----
REVISIONS 4	----	----
FIELD CHANGES	----	----
DRAWN	DMS	2\23\05
CHECKED	RKC	----
QUANTITIES	BJN	----

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

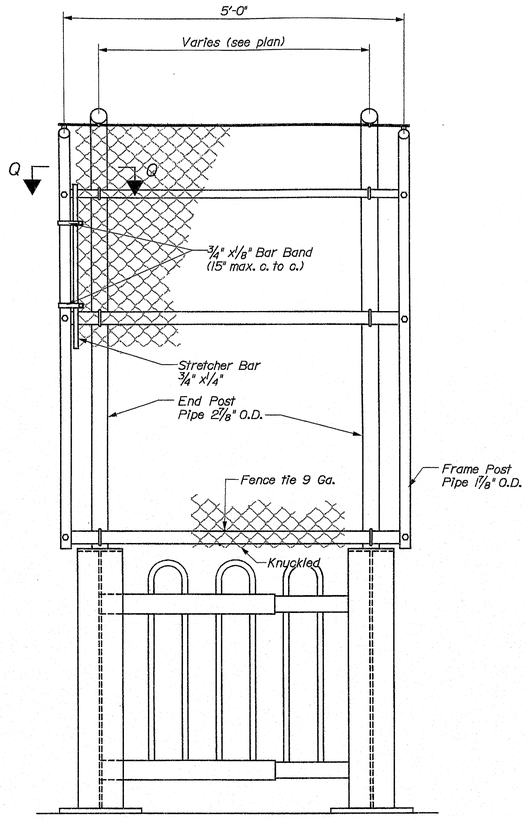
RAILING DETALS

SHEET NUMBER

34

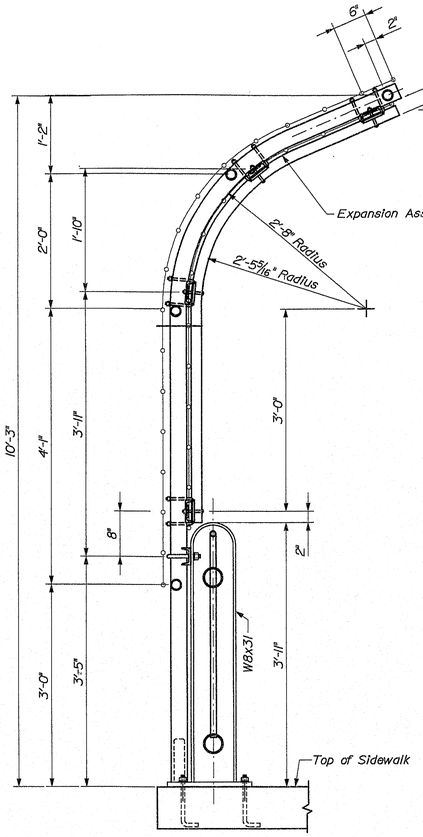
OF 46

Filename: ...\mrsta\034_Railing_Details.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

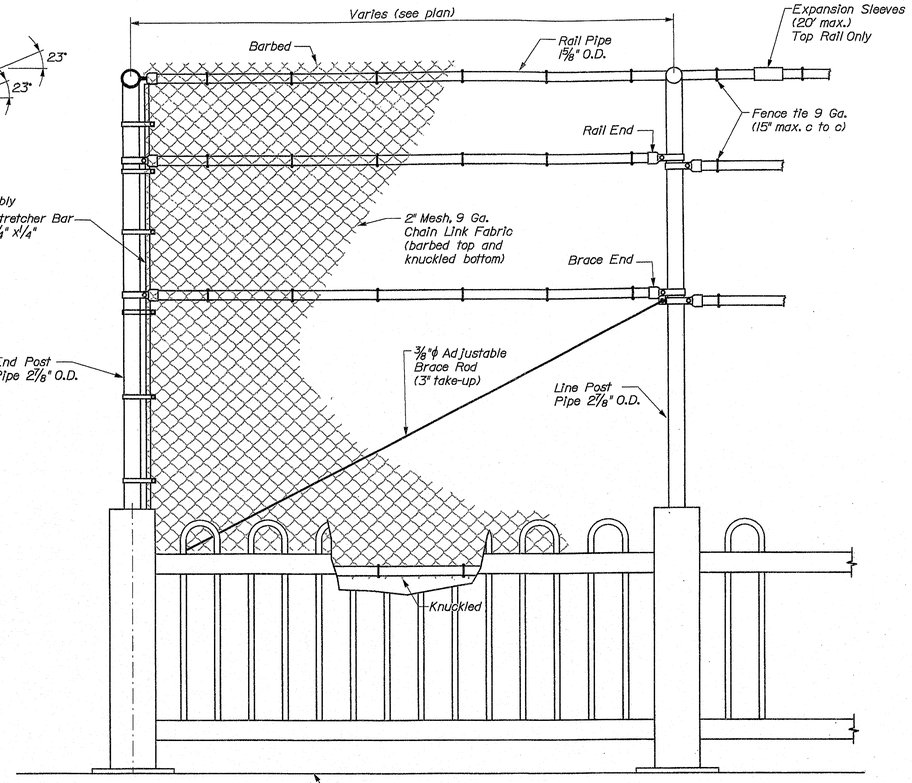


ELEVATION EXPANSION ASSEMBLY

(6 each ~ Install at Expansion Joints
see Rail and Safety Fence Plan Sheet for Location)

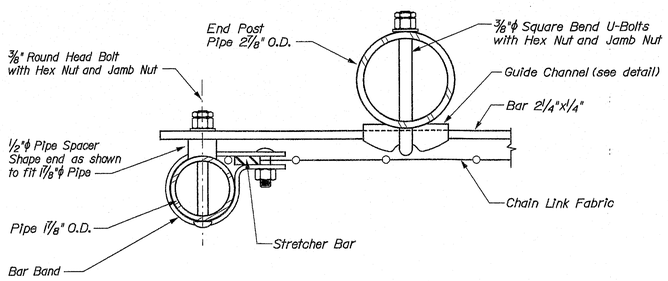


SECTION



SIDEWALK SAFETY FENCE ELEVATION

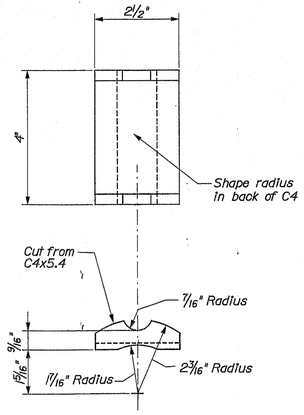
(See Safety Fence Details Sheet for Maintenance Panel Details and Location)



SECTION Q-Q

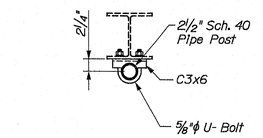
(for Expansion Assembly)

6" = 1'-0"

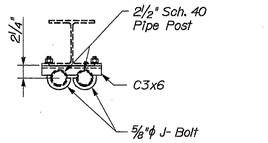


GUIDE CHANNEL DETAIL

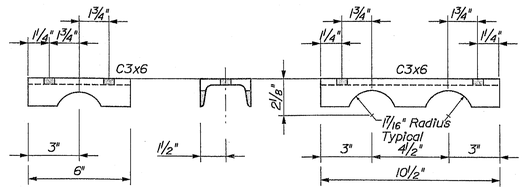
(For Expansion Assembly)



SINGLE POST MOUNTING DETAIL



DOUBLE POST MOUNTING DETAIL



SAFETY FENCE ATTACHING HARDWARE DETAILS

134-257

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5195 — BRIDGE PLANS

PROJ. MANAGER	WLF
DESIGN-DETAILED	ETC
CHECKED-REVIEWED	
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

DATE	BY
2\23\05	DMS
	RKC
	RKC
	BJW

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

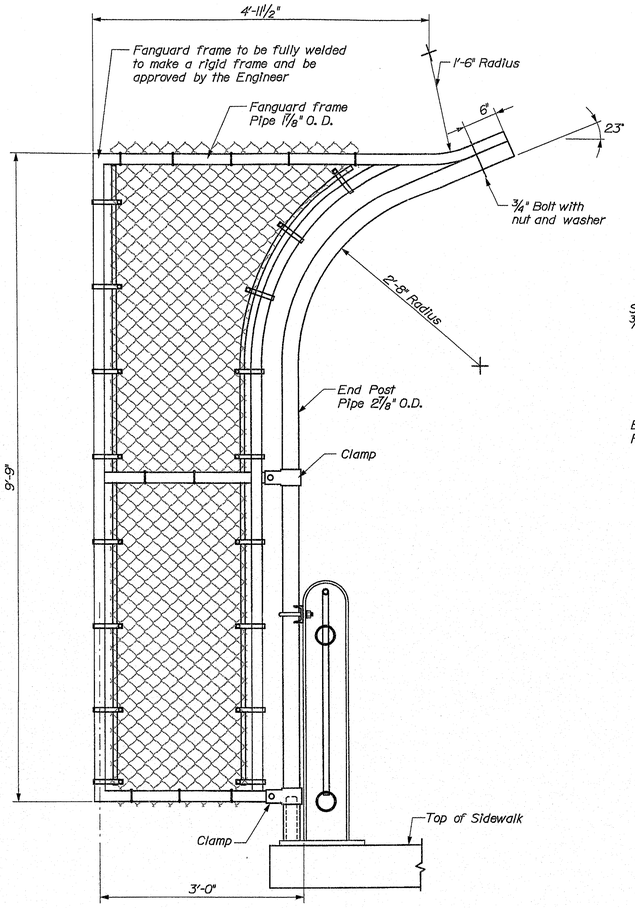
SAFETY FENCE CONNECTIONS

SHEET NUMBER

35

OF 46

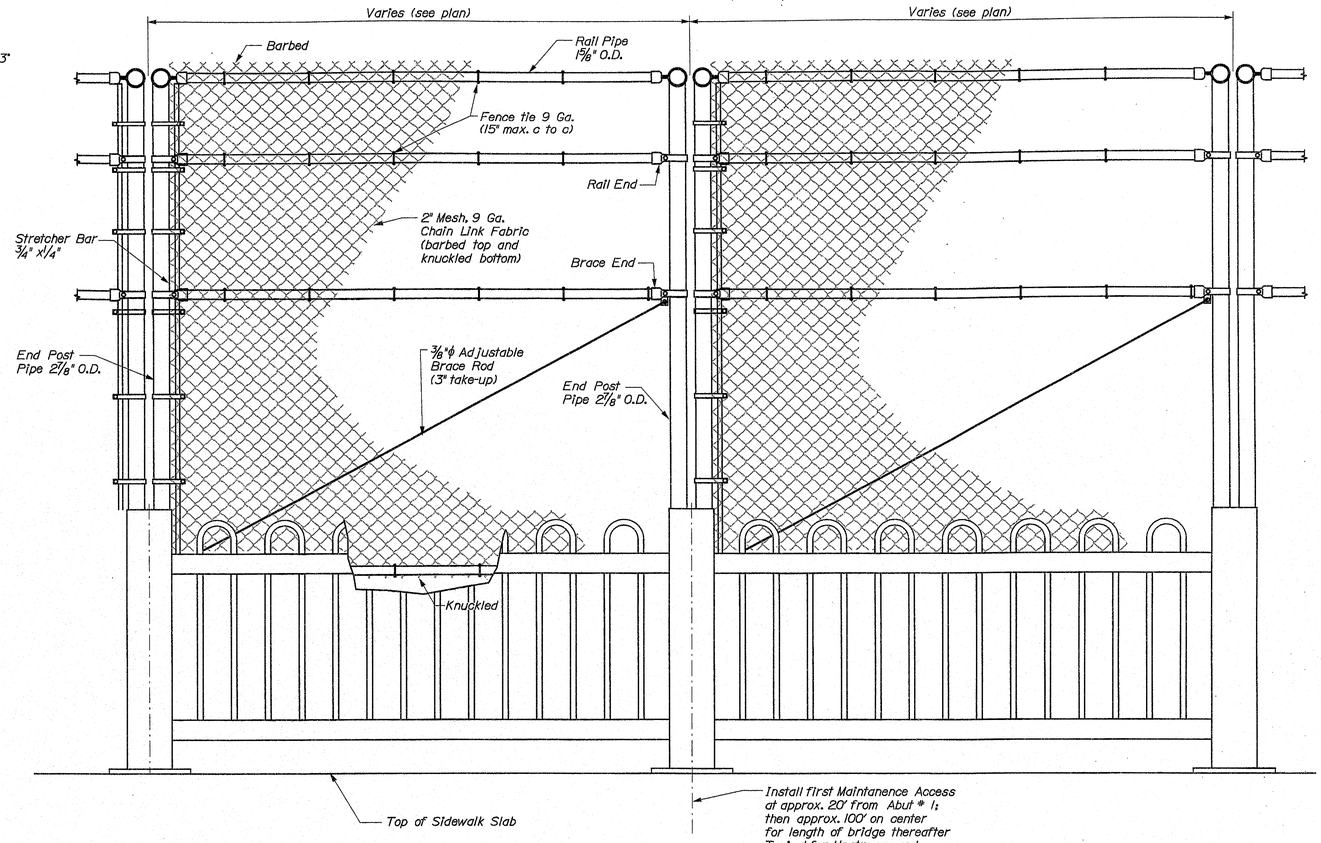
Filename: ...\035_Safety_Fence_Connections.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



FANGUARD ELEVATION

Fanguard Detail (4 Required)
All materials to be the same
as Safety Fence except as noted

NOTE: Payment for Fanguard shall be included In the Lump Sum payment for Item 607.441 Sidewalk Barrier Fence



MAINTENANCE ACCESS REMOVABLE PANEL

2 Panels at each maintenance access location

134-258

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5186

BRIDGE PLANS

	WLF	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	ETC	DMS	2/23/05
CHECKED-REVIEWED	----	RKC	----
DESIGN2-DETAILED2	----	RKC	----
DESIGN3-DETAILED3	----	BJN	----
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

SAFETY FENCE DETAILS

SHEET NUMBER
36
OF 46

Filename: ...\036_Safety_Fence_Details.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

Filename: ...\10\bridge\msta\037_Rebar.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

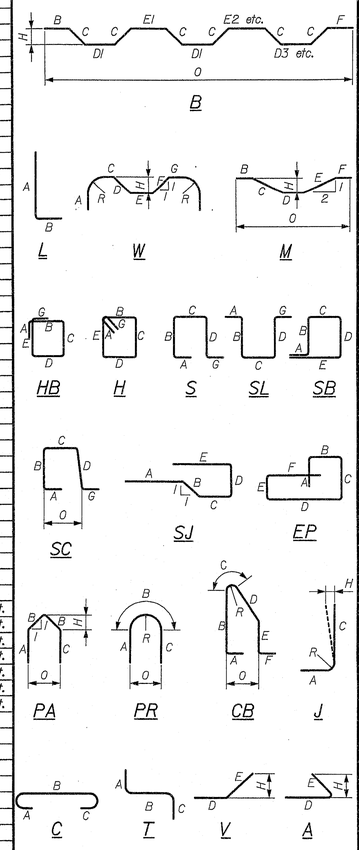
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION
Abutment #1			
A 410	4	6'-6"	Transverse Backwall
A 500	3	14'-2"	Vertical Dowel Foot
A 501	3	10'-2"	Vertical In Post
A 502	1	8'-9"	Vertical at Saw Cut
A 510	7	6'-6"	Transverse Backwall
A 511	6	4'-0"	Vertical In Post
A 512	3	7'-6"	Horizontal In Footing
A 513	13	13'-0"	Horizontal In Wall
A 514	2	49'-0"	Transverse In Abut 1
A 515	2	27'-0"	Transverse in Abut 1
Abutment #2			
B 500	12	25'-9"	Vertical Dowel Footing
B 501	16	9'-0"	Horizontal Wing Wall
B 510	12	4'-2"	Vertical In Post
B 511	16	9'-0"	Horizontal Wing Wall
B 512	60	9'-0"	Horizontal Wing Wall
B 513	34	20'-0"	Vertical Wing Wall
B 514	4	45'-10"	Transverse In Abut. 2
B 515	4	14'-3"	Longitudinal Wing Wall
Pier No. 5			
P 400	60	26'-0"	Horizontal and Vertical
Superstructure			
S 400	840	23'-5"	Long. Along Stringers
S 401	28	49'-0"	Span No. 1 Stringers
S 402	126	27'-0"	Trans. Along Flr. Bm.
S 403	60	35'-8"	Trans. Sup. Elv. Flr. Bm.
Sidewalk			
SW500	4191	6'-11"	Transverse
SW501	308	60'-0"	Longitudinal
SW502	7	12'-0"	Longitudinal
SW503	7	46'-0"	Longitudinal
SW504	7	23'-0"	Longitudinal

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Abutment No. 1														
A 450	14	4'-7"	PR	1'-11½"	8"	1'-11½"						5"	2½"	Abut. to Backwall
A 550	28	3'-8"	L	2'-2"	1'-6"									Abut. to Footing Dowel
A 551	15	3'-5"	L	2'-2"	1'-3"									Set A - Footing
A 552	15	3'-4"	L	2'-4"	1'-0"									Set A - Footing
A 553	3	1'-4"	L	9'-2"	1'-2"									Vert. Wall Tied to Sets A&B
A 554	8	7'-1½"	PR	3'-2"	9½"	3'-2"						6"	3"	Set B - Rail
A 555	56	4'-0"	J	2'-0"		2'-0"					3"		2½"	Sets B&C
A 556	6	4'-4"	S		1'-6"	1'-4"	1'-6"							Set C - Posts
A 557	5	6'-5"	L	5'-3"	1'-2"									Vert. Wall Tied to Sets A&B
A 558	78	2'-11"	L	2'-4"	7"									Longitudinal Abut 1
A 559	78	2'-7"	S		1'-0"	7"	1'-0"							Longitudinal Abut 1
Abutment No. 2														
B 550	18	4'-2"	L	2'-8"	1'-6"									Abut. to Footing Dowel
B 551	18	3'-8"	L	2'-2"	1'-6"									Set P - Footing
B 552	18	2'-4"	L	1'-2"	1'-2"									Set P - Footing
B 553	18	6'-3"	L	5'-0"	1'-3"									Set P - Footing
B 554	34	3'-4"	L	2'-2"	1'-2"									Set N
B 555	136	5'-6"	J	2'-0"		3'-6"					3"		2½"	Set N
B 556	34	7'-1"	PR	3'-2"	9"	3'-2"						6"	3"	Set N
B 557	12	4'-4"	S		1'-6"	1'-4"	1'-6"							Set O
B 558	46	2'-9"	L	2'-4"	5"									Longitudinal Abut 2
B 559	46	1'-4"	S		5½"	5"	5½"							Longitudinal Abut 2
Pier No. 5														
P 450	234	15'-3"	CB		4'-0"	11'-3"							5'-0"	Horizontal Perimeter
P 451	68	2'-4"	L	1'-2"	1'-2"									vertical Perimeter
Superstructure														
S 450	20832	1'-4"	S		5"	6"	5"							Transverse on Stringers
S 550	46	3'-2"	L	2'-6"	7½"									At Abut 2 Grid End Casting
Sidewalk														
SW551	1	40'-5"	PR		40'-5"							38'-10¾"	41'-8½"	Sidewalk Upstream side at Gage St.
SW552	1	39'-3"	PR		39'-3"							37'-9"	40'-6½"	Sidewalk Upstream side at Gage St.
SW553	1	38'-0½"	PR		38'-0½"							36'-7"	39'-4⅝"	Sidewalk Upstream side at Gage St.
SW554	1	36'-10"	PR		36'-10"							35'-5"	38'-2¾"	Sidewalk Upstream side at Gage St.
SW555	1	35'-7½"	PR		35'-7½"							34'-3"	37'-0⅞"	Sidewalk Upstream side at Gage St.
SW556	1	34'-5"	PR		34'-5"							33'-1"	35'-10⅞"	Sidewalk Upstream side at Gage St.
SW557	1	33'-2"	PR		33'-2"							31'-11"	34'-9"	Sidewalk Upstream side at Gage St.
Approach Slab														
AS 550	42	4'-2"	L	3'-0"	1'-2"									Long. Approach Slab
AS 551	42	4'-0"	S		1'-6"	1'-0"	1'-6"							Long. Approach Slab
AS 552	42	2'-8"	V				1'-6"	1'-2"				10"		Long. Approach Slab

TYPE – BENDING DIAGRAMS



All dimensions are out-to-out of bar.

Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.

Reinforcing Bar: ASTM A615/A615M, Grade 60

GENERAL NOTES

1. The first two digits following the letter(s) of the mark indicate the size ofthe bar:

   Mark "A502" = bar size #5
   Mark "P805" = bar size #8
   Mark "S650" = bar size #6

2. For reinforcement details for bridge mounted light bases, the Contractor is directed to the Lighting Details sheet. Bars on the Lighting details sheet are to be paid for under item numbers 503.12 & 503.13. For reinforcement details for the traffic railing the Contractor is directed to the Traffic Barrier sheets. Bars on the Traffic Barrier sheets are to be paid for under item numbers 503.12 & 503.13.

134-259

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

BRIDGE NO. 5196

PROJ. MANAGER	WLF
DESIGN-DETAILED	ETC
CHECKED-REVIEWED	----
DESIGN2-DETAILED2	----
DESIGN3-DETAILED3	----

	BY	DATE
REVISIONS 1	DMS	2\23\05
REVISIONS 2	RKC	----
REVISIONS 3	RKC	----
REVISIONS 4	BJN	----
FIELD CHANGES	----	----

P.E. NUMBER

DATE

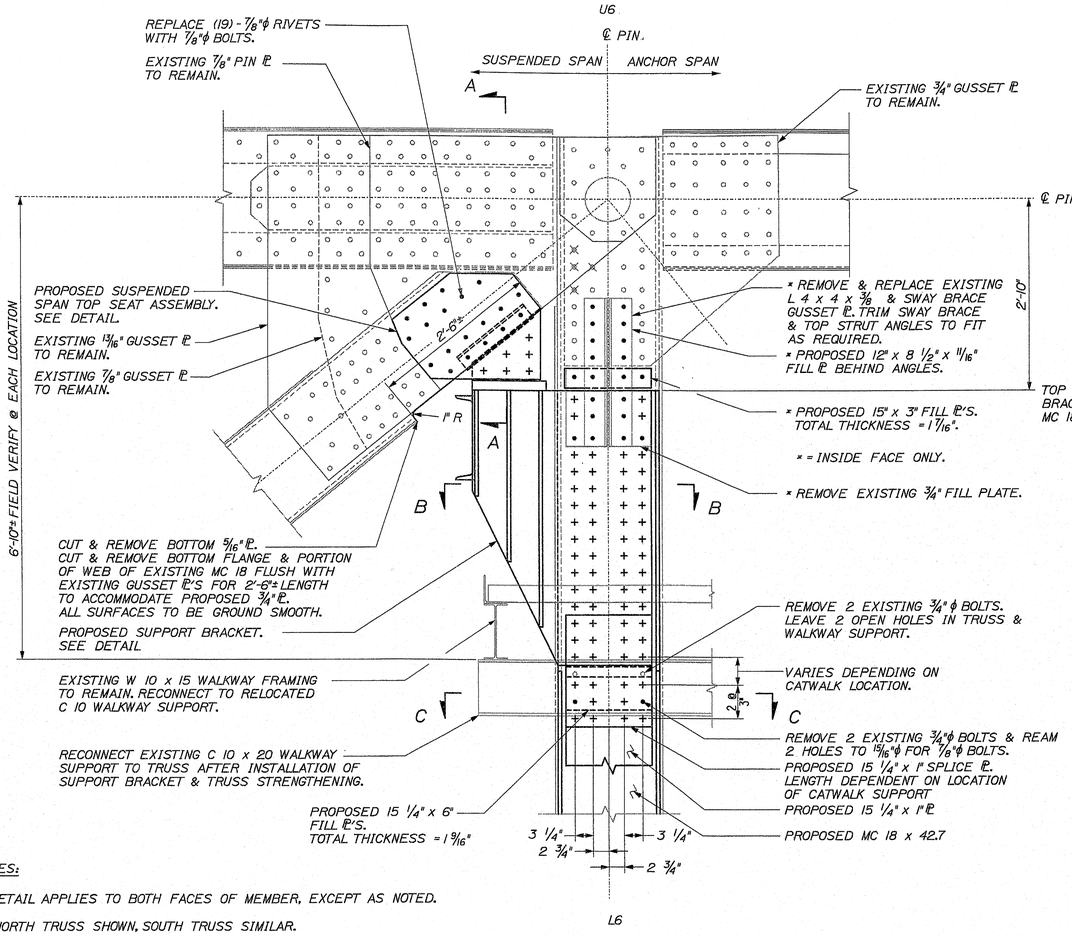
MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

REINFORCING STEEL SCHEDULE

SHEET NUMBER

37

OF 46



NOTES:

1. DETAIL APPLIES TO BOTH FACES OF MEMBER, EXCEPT AS NOTED.
2. NORTH TRUSS SHOWN, SOUTH TRUSS SIMILAR.
3. SEE STRENGTHENING DETAIL FOR ADDITIONAL INFORMATION.

PROPOSED FIXED PIN SUPPORT DETAIL

SCALE: 1" = 1'-0"

U6-L6 - SPAN 2 NORTH TRUSS (INSIDE FACE) SHOWN
U32-L32 - SPAN 4 OPPOSITE AND SIMILAR
U52-L52 - SPAN 6 OPPOSITE

LEGEND

- ○ EXISTING RIVET TO REMAIN
- • RIVET REMOVAL AND INSTALL 7/8" ϕ BOLT IN EXISTING HOLE
- ⊗ EXISTING COUNTERSUNK RIVET TO REMAIN
- \+ NEW 7/8" ϕ BOLT IN 15/16" ϕ HOLE

INSTALLATION OF A SUPPLEMENTAL SUPPORT SYSTEM FOR TRUSS HINGE CONNECTION

GENERAL NOTES:

1. THE PROPOSED WORK INVOLVES THE INSTALLATION OF A SUPPORT SYSTEM ASSEMBLY AT THE SIX (6) FIXED PIN LOCATIONS ON BOTH OF THE TRUSSES. INSTALLATION OF EACH ASSEMBLY INVOLVES THE FOLLOWING:
   - A. REMOVAL OF 19 RIVETS FROM TWO FACES OF THE SUSPENDED SPAN TRUSS DIAGONAL AND INSTALLATION OF A TOP SEAT ASSEMBLY AND PROVIDING A NEW BOLTED CONNECTION USING THE EXISTING RIVET HOLES. ONLY ONE (1) TOP SEAT ASSEMBLY SHALL BE INSTALLED AT A TIME. NO MORE THAN 19 RIVETS SHALL BE REMOVED AT ONE TIME.
   - B. FIELD DRILLING NEW HOLES AND INSTALLATION OF A SUPPORT BRACKET ASSEMBLY ON TWO FACES OF THE ANCHOR SPAN TRUSS VERTICAL MEMBER.
   - C. FIELD DRILLING NEW HOLES AND INSTALLATION OF STRENGTHENING STEEL ON TWO FACES OF THE ANCHOR SPAN TRUSS VERTICAL MEMBER.
   - D. REMOVING, MODIFYING AND RECONNECTING EXISTING CATWALK SUPPORTS AND SWAY BRACES.
2. ALL NEW BOLTS SHALL BE 7/8" ϕ ASTM A325 PLACED IN EXISTING 15/16"ϕ RIVET HOLES OR NEW FIELD DRILLED 15/16"ϕ HOLES UNLESS NOTED OTHERWISE. MATERIAL THICKNESS AND JOINT DETAILS SHALL PRECLUDE THREADS FROM SHEAR PLANE. BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
3. EXISTING DIMENSIONS: DIMENSIONS, ANGLES, AND ELEVATIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM LIMITED FIELD INVESTIGATION AND INFORMATION CONTAINED IN THE ORIGINAL CONSTRUCTION DRAWINGS AND ARE NOT GUARANTEED. THE EXISTING MEASUREMENTS SHALL BE VERIFIED PRIOR TO STARTING THE WORK. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.
4. PLANS FOR THE EXISTING BRIDGE ARE AVAILABLE WITH THE MAINE DEPARTMENT OF TRANSPORTATION.
5. DESIGN LOADS: DEAD LOADS = 407 KIPS
   TRAFFIC LIVE LOADS = 142 KIPS
   SIDEWALK LIVE LOAD = 35 KIPS
   DYNAMIC IMPACT FACTOR (FOR DROP) = 2.7
6. THERE SHALL BE NO TRAFFIC LIVE LOAD ON THE LANE OVER THE TRUSS ON WHICH THE SUPPLEMENTAL SUPPORT SYSTEM IS BEING INSTALLED.
7. ALL NEW STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50 GALVANIZED IN ACCORDANCE WITH ASTM A123 AND PAINTED TO MATCH EXISTING.
8. EXTREME CARE SHOULD BE TAKEN TO NOT DAMAGE ANY EXISTING STEEL MEMBERS WHICH ARE TO REMAIN. ANY DAMAGE SHALL BE REPORTED IMMEDIATELY TO THE DEPARTMENT OF TRANSPORTATION AND REPAIRED AS DIRECTED BY THE ENGINEER.
9. ALL FAYING SURFACES SHALL BE CLEANED AND PRIMED WITH ZINC RICH PAINTS OR COLD GALVANIZING COMPOUNDS IN ACCORDANCE WITH ASTM A780 PRIOR TO INSTALLATION. ANY DAMAGE TO GALVANIZED COATING ON NEW STEEL SHALL BE TOUCHED UP WITH ZINC RICH PAINTS OR COLD GALVANIZING COMPOUNDS IN ACCORDANCE WITH ASTM A780.
10. THE EXISTING 1 1/2" STEEL GRATING OF THE TRANSVERSE CATWALK WILL NEED TO BE REMOVED PRIOR TO THE INSTALLATION OF THE SUPPLEMENTAL SUPPORT SYSTEM. AN AREA OF THE GRATING AROUND THE PERIMETER WILL NEED TO BE TRIMMED, TO PROVIDE CLEARANCE AROUND THE SUPPORT SYSTEM, PRIOR TO ITS REINSTALLATION. THE TRANSVERSE AND LONGITUDINAL CATWALK SUPPORTS ATTACHED TO THE ANCHOR SPAN TRUSS VERTICAL WILL NEED TO BE REMOVED AND RECONNECTED FOLLOWING INSTALLATION OF THE SUPPORT BRACKETS AND STRENGTHENING STEEL. PROVIDE TEMPORARY SUPPORT OF TRANSVERSE AND LONGITUDINAL CATWALKS.
11. RIVET REMOVAL: ALL ELEMENTS OF THE EXISTING TRUSS BRIDGE ARE TO BE CONSIDERED FRACTURE CRITICAL. RIVETS SHALL BE REMOVED BY PNEUMATIC OR MECHANICAL TOOLS IN A MANNER THAT WILL NOT DAMAGE THE UNDERLYING, CONNECTED MATERIAL. FLAME CUTTING METHODS SHALL NOT BE USED. UPON REMOVAL OF EACH RIVET, THE BASE METAL AROUND THE HOLE SHALL BE EXAMINED FOR SURFACE IRREGULARITIES AND DETERIORATION. ALL OXIDIZED MATERIAL SHALL BE REMOVED.

    WHERE RIVET HOLE DIAMETERS ARE INCREASED BY REMOVAL OF OXIDIZED MATERIAL OR REMOVAL OF CORROSION, THE DIAMETER OF THE RESULTANT HOLE MUST NOT BE MORE THAN 1/8" LARGER THAN THE MATING BOLT. IF THIS CONDITION IS NOT MET, PROVIDE A HIGH STRENGTH BOLT IN A LARGER DIAMETER AS DIRECTED BY THE ENGINEER. A HARDENED WASHER SHALL BE PROVIDED UNDER EACH ELEMENT OF EACH BOLT.
12. WELDING DETAILS, PROCEDURES, AND TESTING METHODS SHALL CONFORM TO ANSI/AASHTO/ANS-D1.5 BRIDGE WELDING CODE.
13. STRUCTURAL STEEL WORK SHALL CONFORM TO THE REQUIREMENTS OF SECTION 504 OF THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
14. ALL TRUSS MEMBERS SHALL BE CONSIDERED AS FRACTURE CRITICAL MEMBERS (FCM).

Lichtenstein
Consulting Engineers

134-260

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BH-9327(100)X
PIN 9327.10
BRIDGE PLANS
MEMORIAL BRIDGE

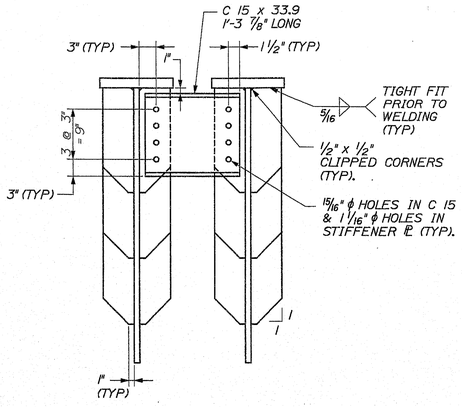
PROJ. MANAGER	J.MCGOVERN	BY	DATE
DESIGN-DETAILED	T.STRNAD	C.DONOHUE	12/04
CHECKED-REVIEWED	J.MCGOVERN	SIGNATURE	
DESIGNED-DETAILED2			
DESIGNED-DETAILED3			
REVISIONS 1		P.E. NUMBER	
REVISIONS 2			
REVISIONS 3		DATE	
REVISIONS 4			
FIELD CHANGES			

MEMORIAL BRIDGE
KENNEBEC RIVER
KENNEBEC COUNTY
AUGUSTA

FIXED PIN SUPPORT PLAN

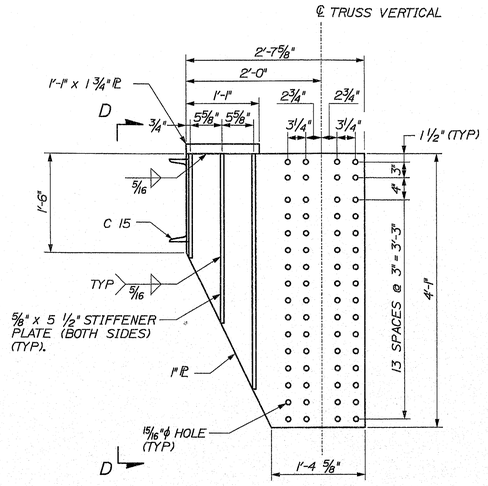
SHEET NUMBER
38
OF 46

Filename: ...\038_Fixed_Pin_Support_Plan.dgn Division: BRIDGE User Name: david.sullivan Date: 3/3/2005



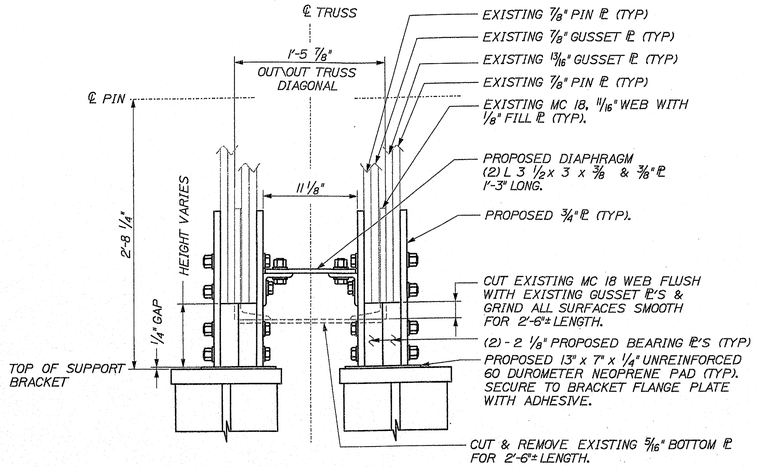
SECTION D-D

SCALE: 1" = 1'-0"



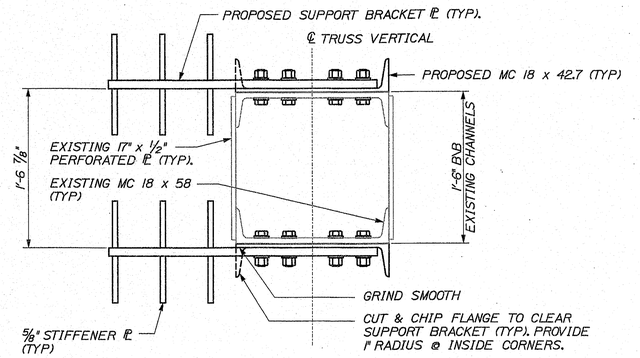
PROPOSED SUPPORT BRACKET ELEVATION

SCALE: 1" = 1'-0"



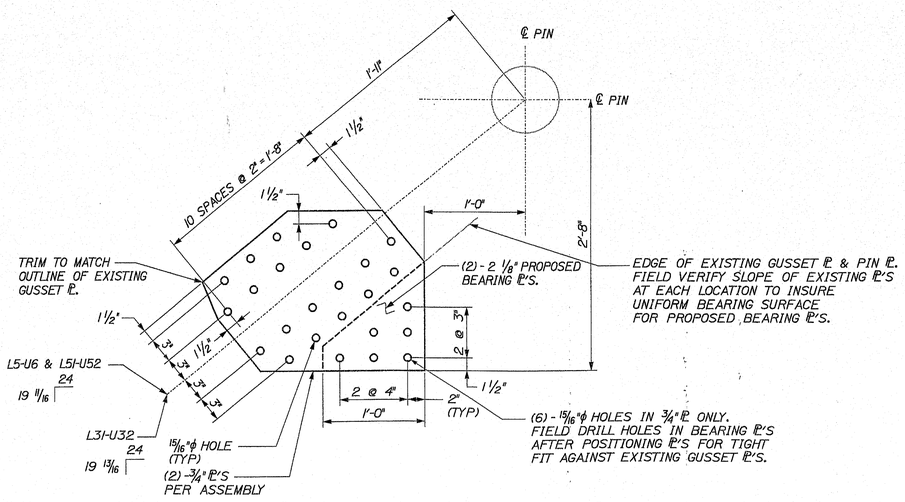
SECTION A-A

SCALE: 1 1/2" = 1'-0"



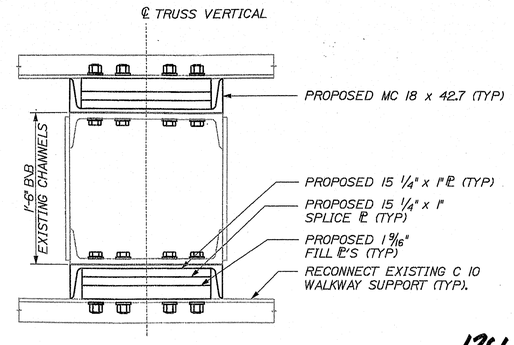
SECTION B-B

SCALE: 1 1/2" = 1'-0"



PROPOSED SUSPENDED SPAN TOP SEAT ASSEMBLY

SCALE: 1 1/2" = 1'-0"



SECTION C-C

SCALE: 1 1/2" = 1'-0"

134-261

Lichtenstein
Consulting Engineers

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

MEMORIAL BRIDGE

	BY	DATE
PROJ. MANAGER	J.MCGOVERN	
DESIGN-DETAILED	T.STIRNO	12\04
CHECKED-REVIEWED	J.MCGOVERN	
DESIGNED-DETAILED2		
DESIGNED-DETAILED3		
REVISIONS 1	C.DONOHUE	12\04
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

KENNEBEC RIVER

AUGUSTA KENNEBEC COUNTY

FIXED PIN SUPPORT DETAILS

SHEET NUMBER

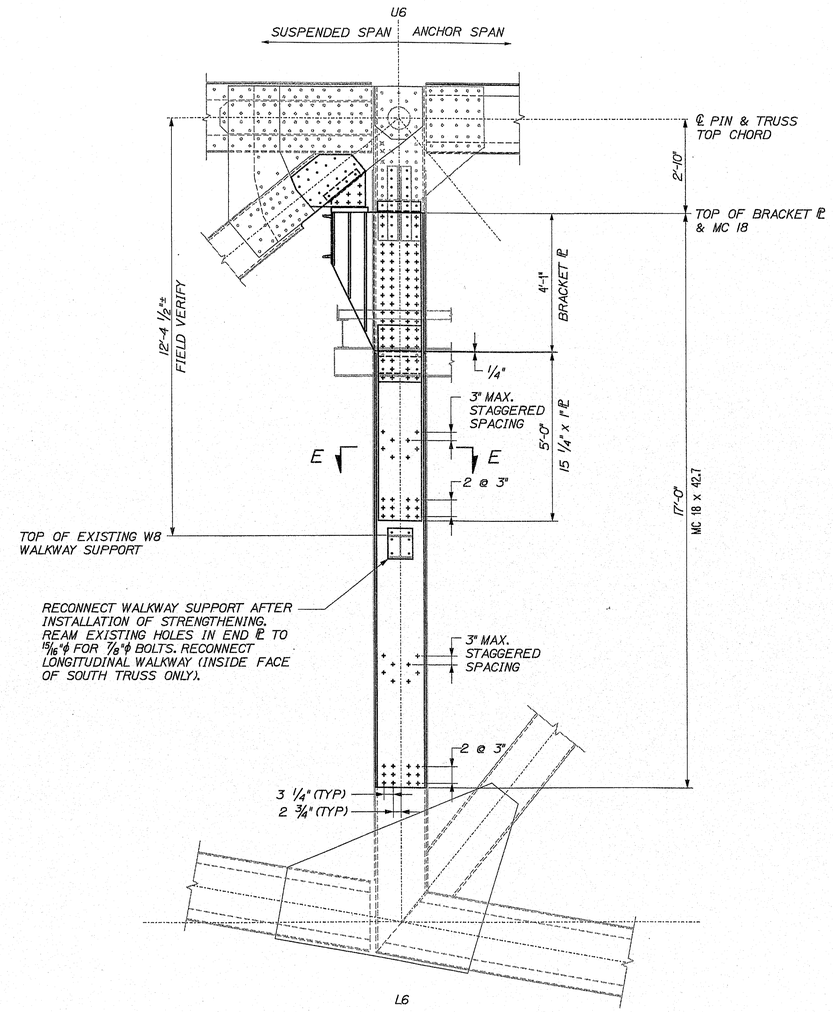
39

OF 46

Filename: ...\039_Fixed_Pin_Support_Details.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

NOTES:

1. STRENGTHENING APPLIES TO BOTH FACES OF MEMBER, EXCEPT AS NOTED.
2. NORTH TRUSS SHOWN, SOUTH TRUSS SIMILAR.



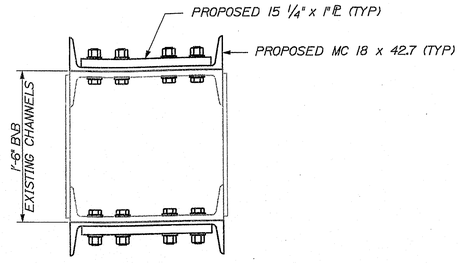
PROPOSED TRUSS STRENGTHENING

SCALE: 1/2" = 1'-0"

U6-L6 - SPAN 2 NORTH TRUSS (INSIDE FACE) SHOWN
U32-L32 - SPAN 4 OPPOSITE AND SIMILAR
U52-L52 - SPAN 6 OPPOSITE

LEGEND

- ○ EXISTING RIVET TO REMAIN
- • RIVET REMOVAL AND INSTALL 7/8"ϕ BOLT IN EXISTING HOLE
- ⊗ EXISTING COUNTERSUNK RIVET TO REMAIN
- \+ NEW 7/8"ϕ BOLT IN 15/16"ϕ HOLE



SECTION E-E

SCALE: 1 1/2" = 1'-0"

Lichtenstein
Consulting Engineers

134-262

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE PLANS

MEMORIAL BRIDGE

PROJ. MANAGER	J.MCGOVERN		
DESIGN-DETAILED	L.STRNAD	BY	C.DONOHUE
CHECKED-REVIEWED	J.MCGOVERN	DATE	12/04
DESIGNS-DETAILED2			
DESIGNS-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

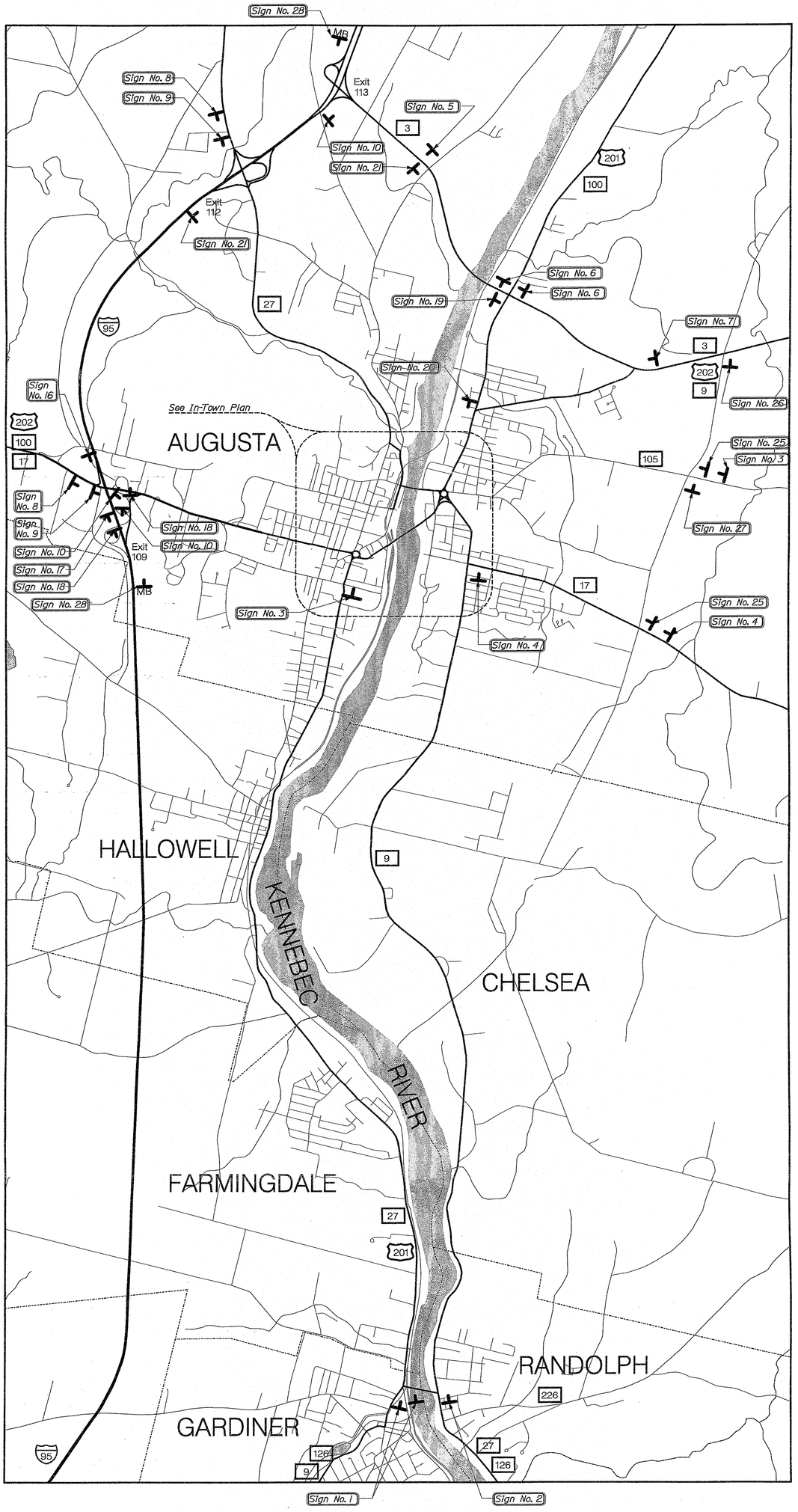
MEMORIAL BRIDGE
KENNEBEC RIVER
AUGUSTA KENNEBEC COUNTY

TRUSS STRENGTHENING

SHEET NUMBER
40
OF 46

Filename: ...\040_Truss Strengthening.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

Filename: ...\msta\041_Detour_Area_Plan.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

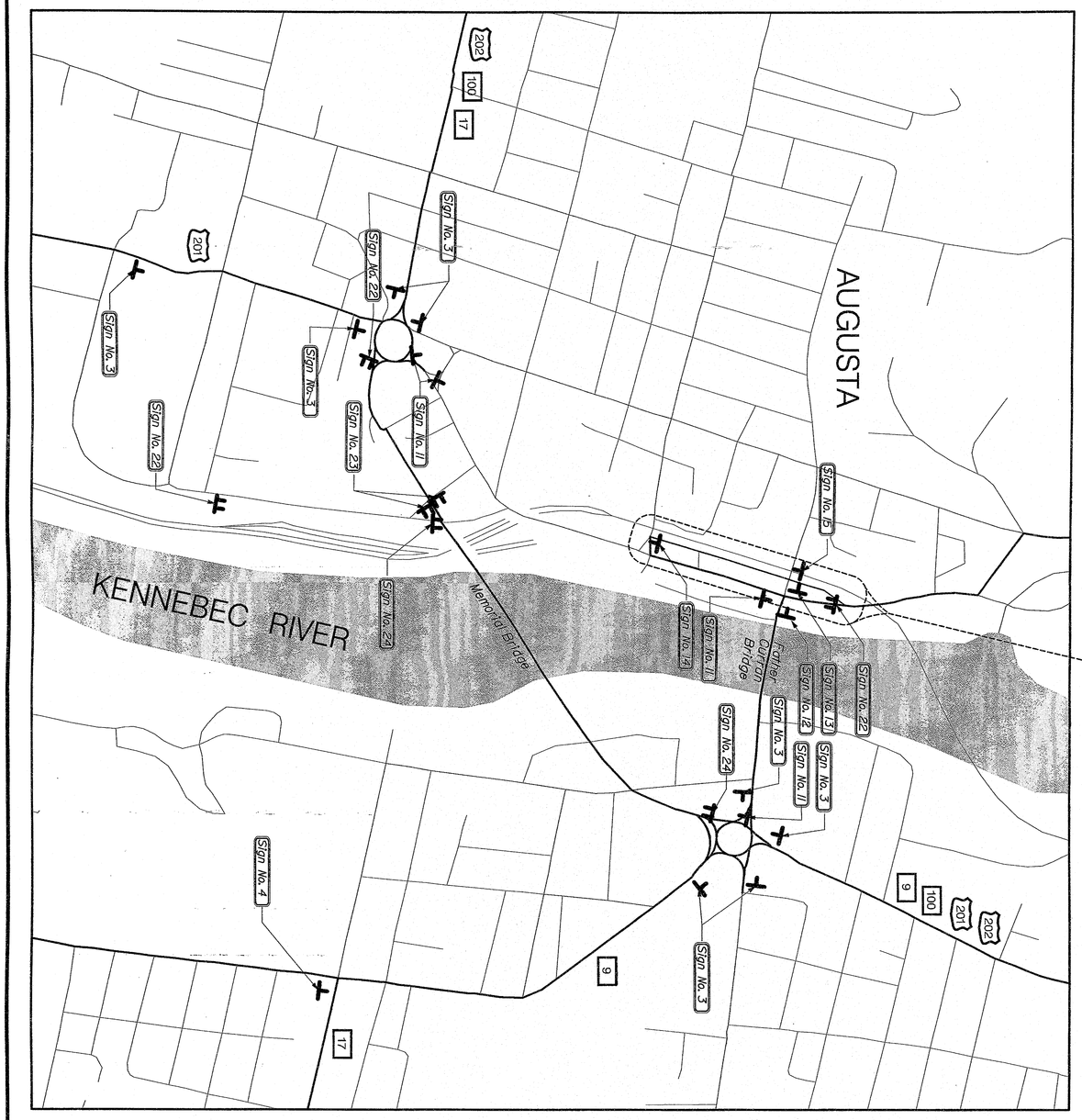


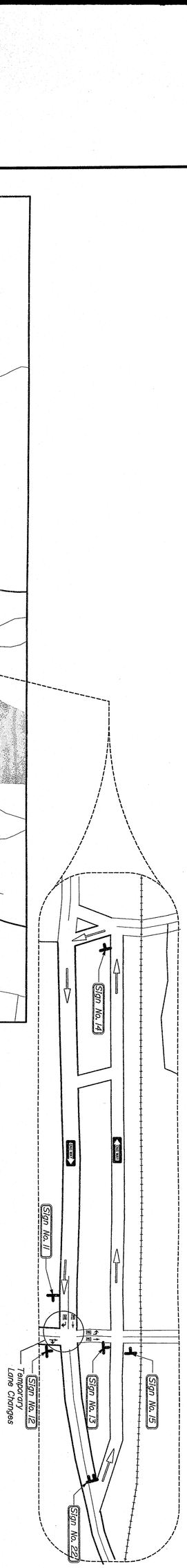
NOTE:
Message Boards that are to be moved are not shown.

134-203

SHEET NUMBER 41 OF 46	MEMORIAL BRIDGE KENNEBEC RIVER CITY OF AUGUSTA KENNEBEC COUNTY DETOUR AREA PLAN	PROJ. MANAGER WLF / BY / DATE DESIGN-DETAILED ETC / DMS CHECKED-REVIEWED / RKC / 2\23\05 DESIGN2-DETAILED2 / RKC DESIGN3-DETAILED3 / BJN REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	SIGNATURE P.E. NUMBER DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION BH-9327(100)X BRIDGE NO. 5196 PIN 9327.10 BRIDGE PLANS	

Filename: ...\042_In_Town_Detour_Plan.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005

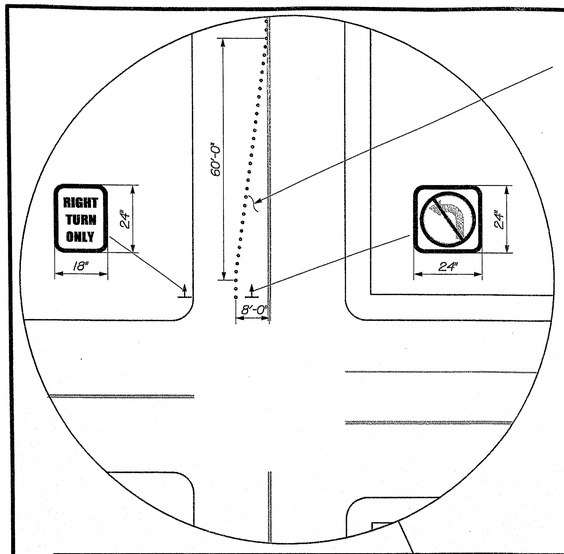




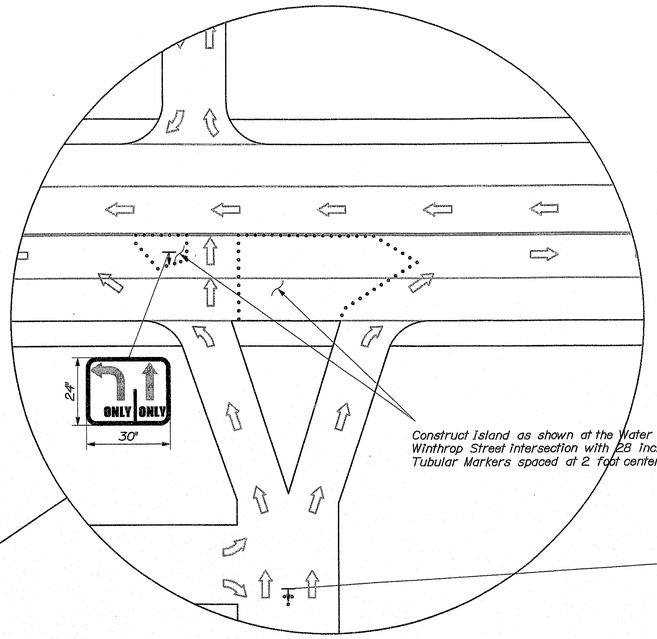
134-2014

SHEET NUMBER 42 OF 46	MEMORIAL BRIDGE KENNEBEC RIVER CITY OF AUGUSTA KENNEBEC COUNTY IN-TOWN DETOUR PLAN	PROJ. MANAGER WLF DESIGN-DETAILED ETC BY DMS CHECKED-REVIEWED ..... RKC 2\23\05 DESIGN2-DETAILED2 ..... RKC ..... DESIGN3-DETAILED3 ..... BJN ..... REVISIONS 1 ..... REVISIONS 2 ..... REVISIONS 3 ..... REVISIONS 4 ..... FIELD CHANGES	SIGNATURE P.E. NUMBER DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION BH-9327(100)X PIN BRIDGE NO. 5196 9327.10 BRIDGE PLANS

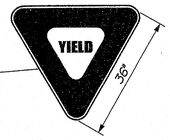
Filename: ...\043_Temporary_Traffic_Control_Plan.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



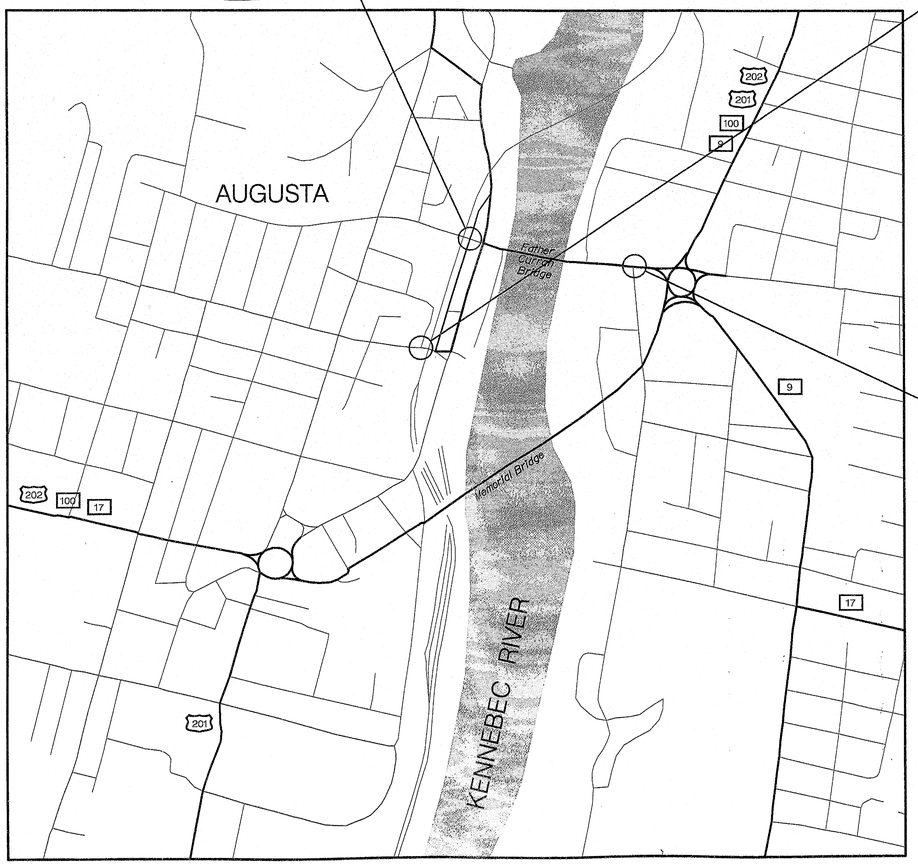
Close off left turn lane on water street using 28 inch tubular markers spaced at 2 foot centers

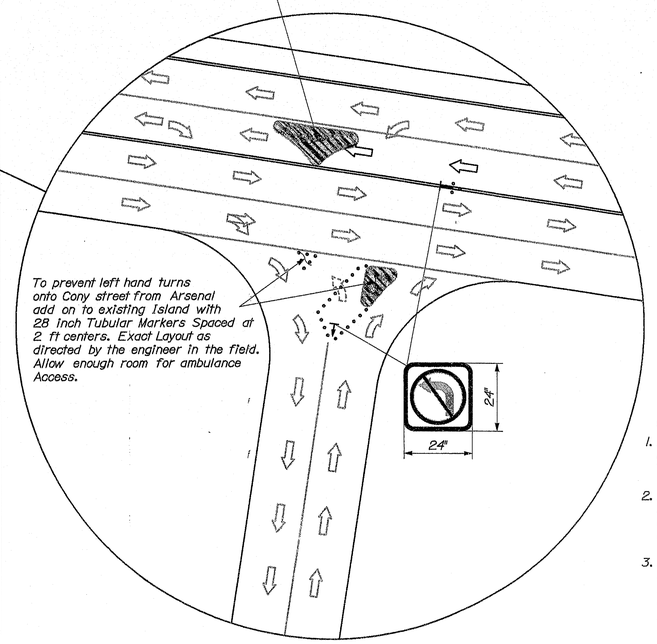


Construct Island as shown at the Water Street Winthrop Street intersection with 28 inch Tubular Markers spaced at 2 foot centers



Remove existing Island to 6 inches below the pavement and Fill with Gravel and temporary pavement flush with existing Pavement. Temporary pavement to be 3 inches minimum thickness. The intent of this is to allow 2 Westbound lanes on Cony Street During the bridge Closure. To be reconstructed in it's exact configuration once the Memorial Bridge is back in service.





To prevent left hand turns onto Cony street from Arsenal add on to existing Island with 28 inch Tubular Markers Spaced at 2 ft centers. Exact Layout as directed by the engineer in the field. Allow enough room for ambulance Access.

NOTES:

1. All signs to be of the size shown, minimum, mounted in accordance with the MUTCD and Maine Department of Transportation Standard Specifications.
2. Payment for all materials, labor and equipment required to satisfactorily install all tubular markers, all signs as shown on this sheet, shall be paid for under item number 652.70, Temporary Intersection Modifications.
3. Payment for all materials, labor, and equipment required as well as all excavation, gravel, pavement and concrete required to remove island and reinstall island in its exact current configuration on Cony street shall be paid for under item number 652.70, Temporary Intersection Modifications.

134-265

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

PIN 9327.10

BRIDGE NO. 5196

BRIDGE PLANS

	W.L.F	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	ETC	DMS	2/23/05
CHECKED-REVIEWED	----	RKC	
DESIGN2-DETAILED2	----	RKC	
DESIGN3-DETAILED3	----	B.N	
REVISIONS 1	----	----	----
REVISIONS 2	----	----	----
REVISIONS 3	----	----	----
REVISIONS 4	----	----	----
FIELD CHANGES	----	----	----

SIGNATURE

P.E. NUMBER

DATE

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

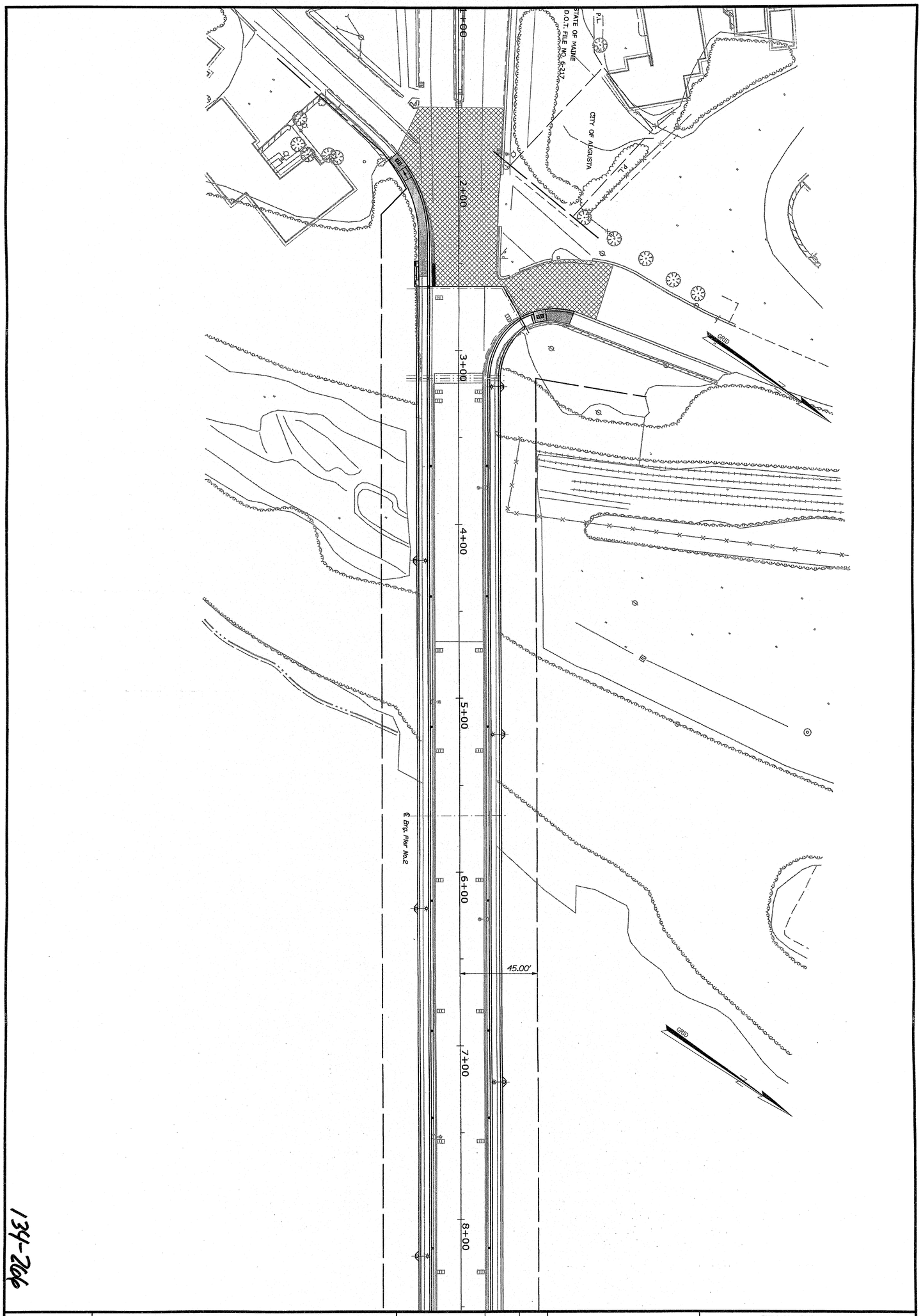
TEMP. TRAFFIC CONTROL FOR BRIDGE CLOSURE

SHEET NUMBER

43

OF 46

Filename: ...\10\bridge\msta\044_BDPlan1.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



134-206

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

RIGHT OF WAY PLAN

SHEET NUMBER 44 OF 46

		BY	DATE
PROJ. MANAGER	WLF		
DESIGN-DETAILED	ETC	DMS	
CHECKED-REVIEWED	____	RKC	2\23\05
DESIGN2-DETAILED2	____	RKC	____
DESIGN3-DETAILED3	____	BJN	____
REVISIONS 1	____	____	____
REVISIONS 2	____	____	____
REVISIONS 3	____	____	____
REVISIONS 4	____	____	____
FIELD CHANGES	____	____	____

SIGNATURE

P.E. NUMBER

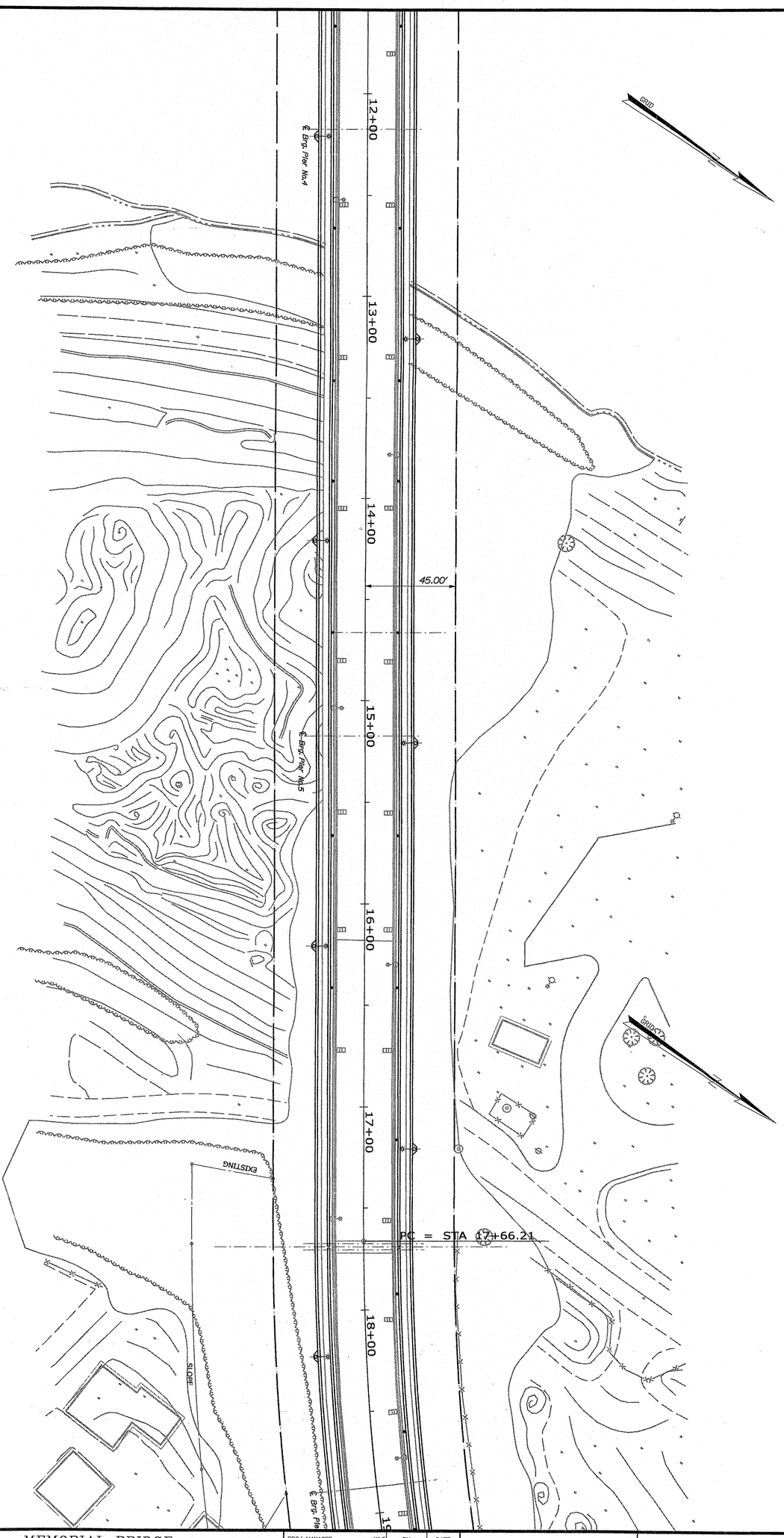
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

BRIDGE NO. 5196 PIN 9327.10 BRIDGE PLANS

Filename: ...\10\bridge\msta\045_BDPlan2.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



134-267

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

RIGHT OF WAY PLAN

SHEET NUMBER 45 OF 46

		BY	DATE
PROJ. MANAGER	WLF		
DESIGN-DETAILED	ETC	DMS	
CHECKED-REVIEWED		RKC	2\23\05
DESIGN2-DETAILED2		RKC	
DESIGN3-DETAILED3		BJN	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

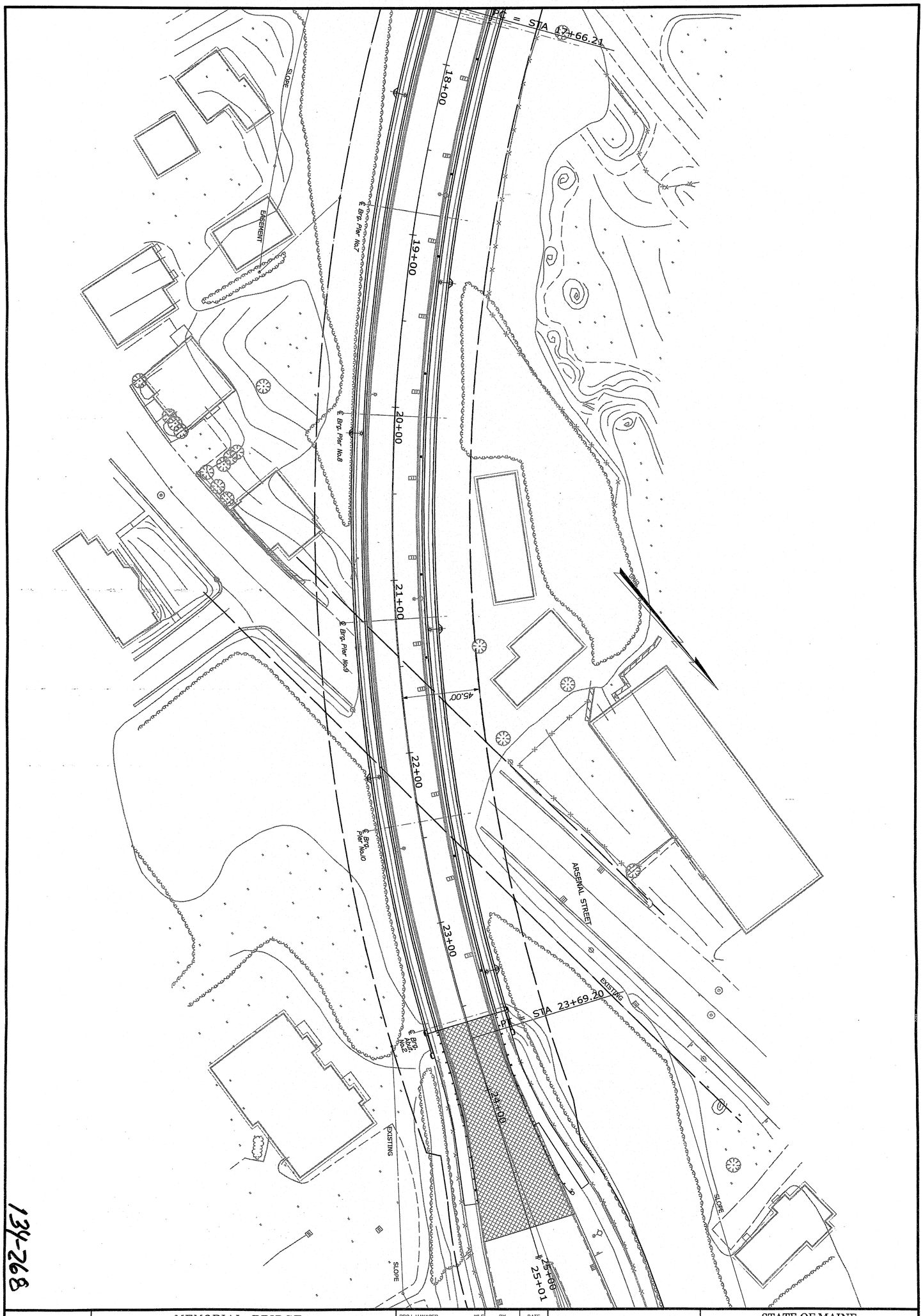
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

BRIDGE NO. 5196 PIN 9327.10 BRIDGE PLANS

Filename: ...\10\bridge\msta\046_BDPlan3.dgn Division: BRIDGE Username: david.sullivan Date:3/3/2005



137-268

MEMORIAL BRIDGE
KENNEBEC RIVER
CITY OF AUGUSTA KENNEBEC COUNTY

RIGHT OF WAY PLAN

SHEET NUMBER 46 OF 46

PROJ. MANAGER		WLF	BY	DATE
DESIGN-DETAILED	ETC		DMS	
CHECKED-REVIEWED	----		RKC	2\23\05
DESIGN2-DETAILED2	----		RKC	----
DESIGN3-DETAILED3	----		BJN	----
REVISIONS 1	----	----		----
REVISIONS 2	----	----		----
REVISIONS 3	----	----		----
REVISIONS 4	----	----		----
FIELD CHANGES	----	----		----

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BH-9327(100)X

BRIDGE NO. 5196 PIN 9327.10 BRIDGE PLANS