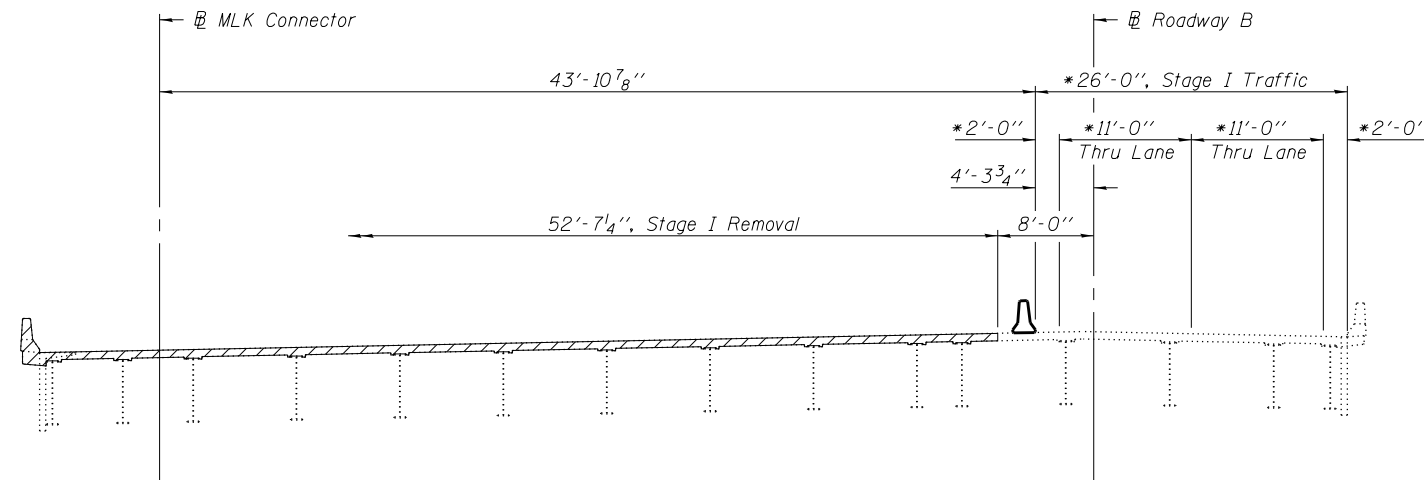
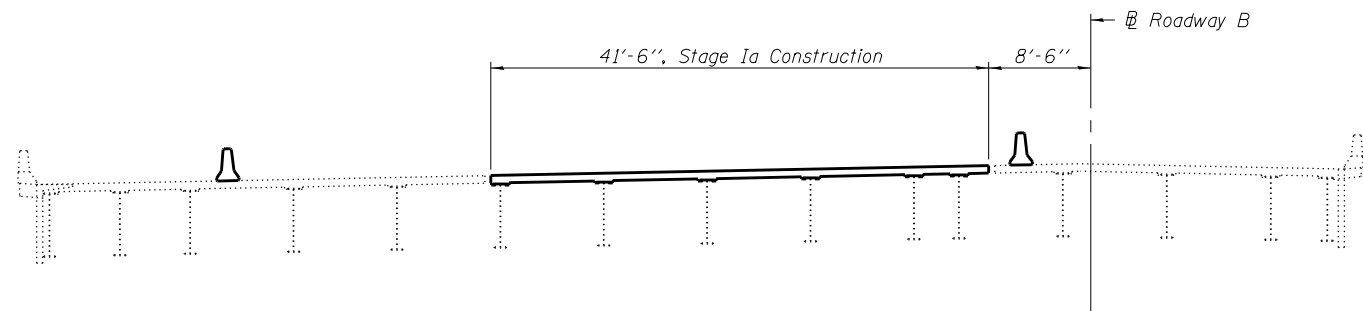


SOUTH ABUTMENT



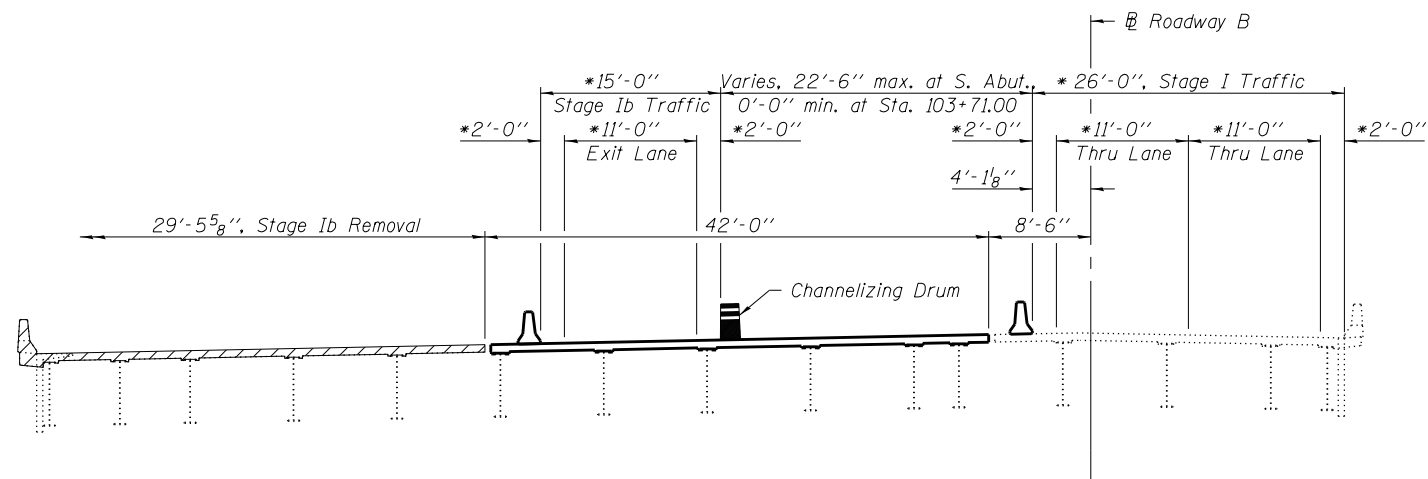
PIER 3B

STAGE Ia REMOVAL



SOUTH ABUTMENT

STAGE Ia CONSTRUCTION



SOUTH ABUTMENT

STAGE Ib REMOVAL

* Dimensions measured perpendicular to the direction of travel.

Notes:
 All sections looking north.
 For quantity of Temporary Concrete Barrier, see roadway plans.
 For Temporary Concrete Barrier Details, see sheet 14 of 143.
 Hatched area indicates Concrete Removal.
 Stage removal and construction shown in sections are limited to expansion joint end blocks.
 Pier 3B Stage I Removal may be concurrent with Stage Ia Removal, Stage Ia Construction, and Stage Ib Removal.
 All dimensions shown are measured perpendicular to Roadway B, except as shown.

FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn	DESIGNED - E.M. Lagemann	REVISED
USER NAME = elagemann	CHECKED - T.S. Friederich	REVISED
PLOT SCALE =	DRAWN - J.N. Bailey	REVISED
PLOT DATE = 8/7/2014	CHECKED - T.S. Friederich	REVISED

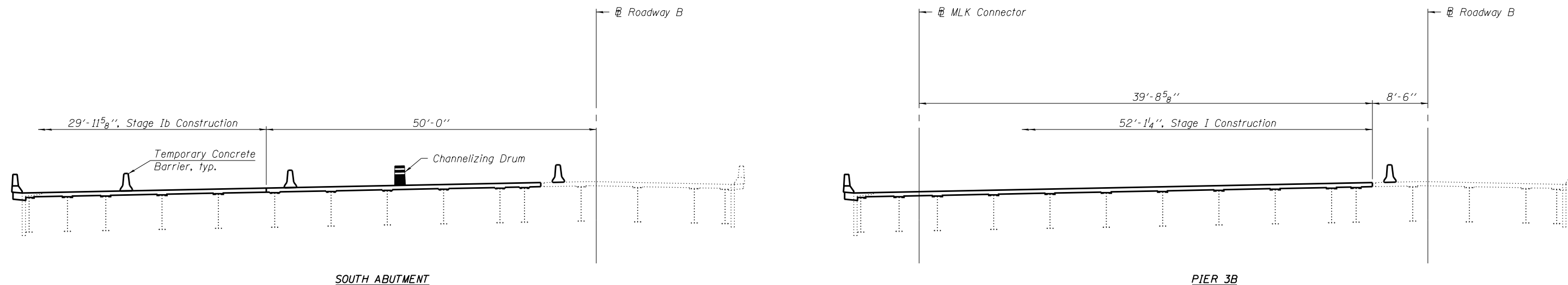
DESIGNED - E.M. Lagemann	REVISED
CHECKED - T.S. Friederich	REVISED
DRAWN - J.N. Bailey	REVISED
CHECKED - T.S. Friederich	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

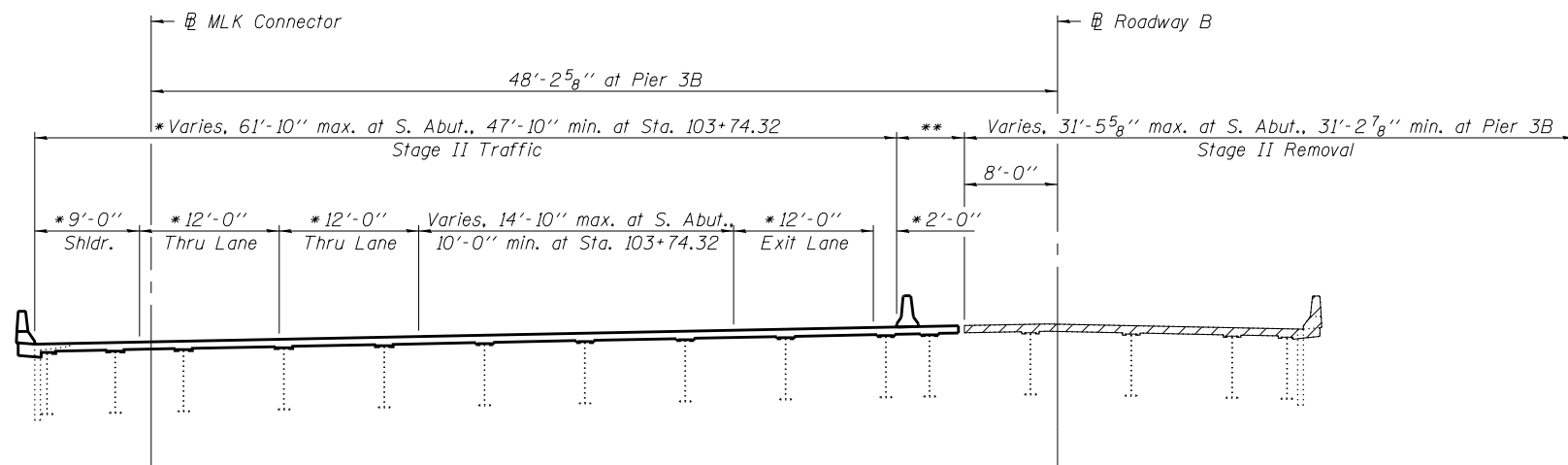
**STAGE CONSTRUCTION DETAILS - UNIT 1
 STRUCTURE NO. 082-0010**

SHEET NO. 9 OF 143 SHEETS

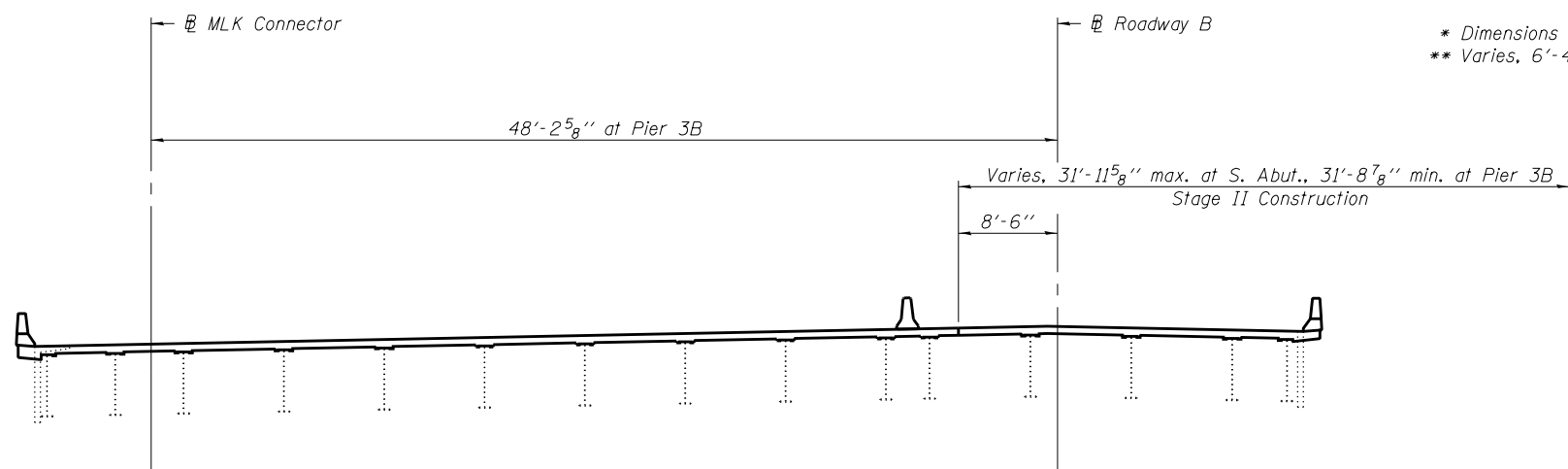
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	82-(1,4)B-1	ST. CLAIR	406	201
CONTRACT NO. 76G09				
ILLINOIS FED. AID PROJECT				



STAGE Ib CONSTRUCTION



STAGE II REMOVAL

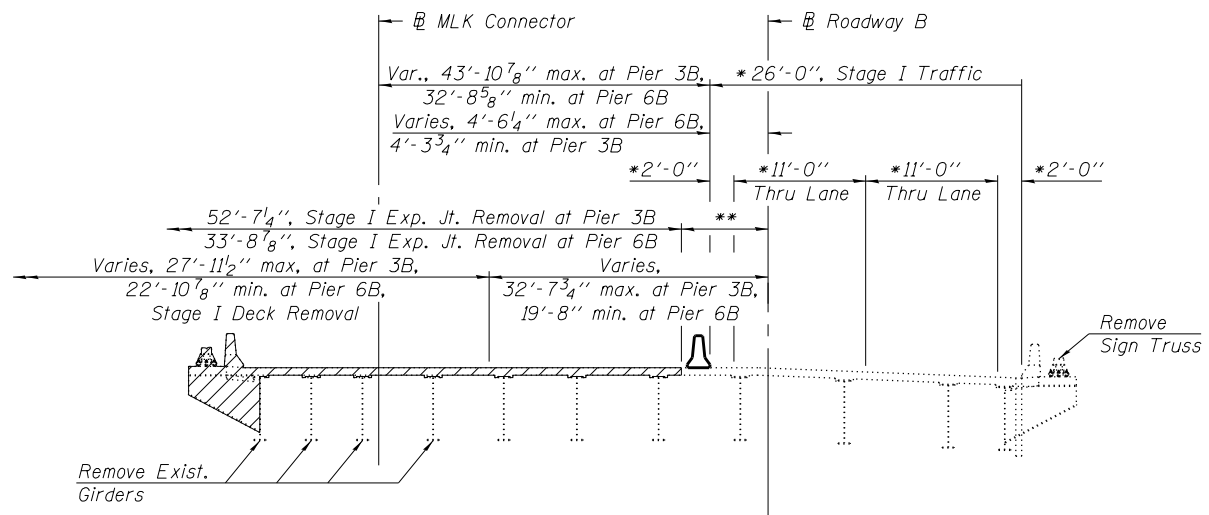


STAGE II CONSTRUCTION

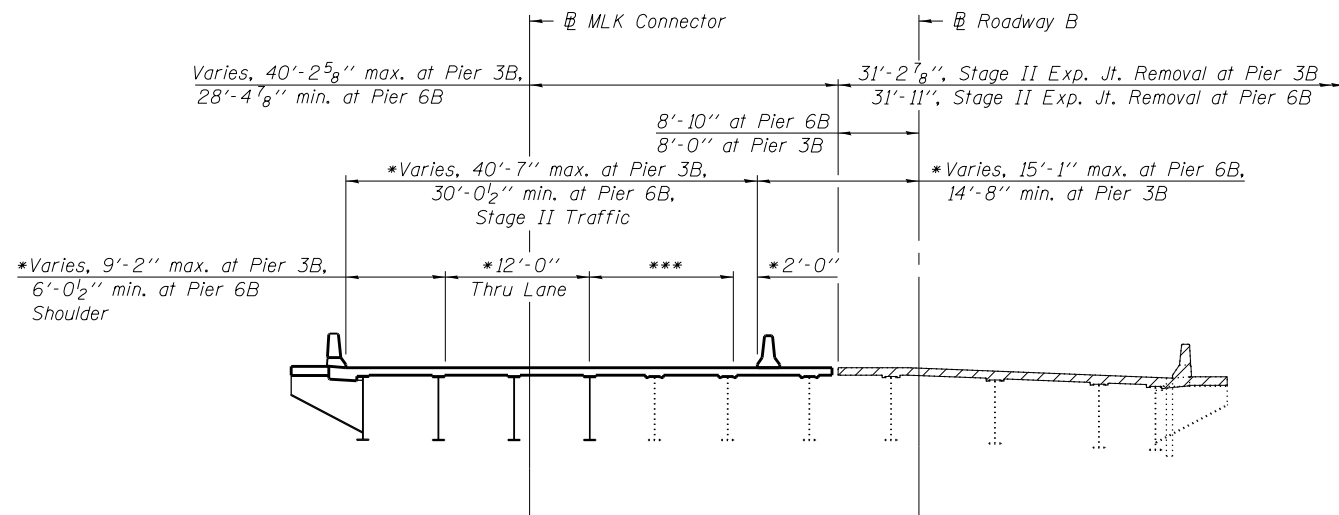
* Dimensions measured perpendicular to the direction of travel.
 ** Varies, 6'-4" max. at Pier 3B, 4'-10" min. at S. Abut.

Notes:
 All sections looking north.
 For quantity of Temporary Concrete Barrier, see roadway plans.
 For Temporary Concrete Barrier Details, see sheet 14 of 143.
 Hatched area indicates Concrete Removal.
 Stage removal and construction shown in sections are limited to expansion joint end blocks.
 All dimensions shown are measured perpendicular to Roadway B, except as shown.

FILE NAME = X:\1309400-MLK\Cad\10-76009.dgn	DESIGNED - E.M. Lagemann	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS - UNIT 1 STRUCTURE NO. 082-0010	F.A.I. RTE. = 64	SECTION = 82-(1,4)B-1	COUNTY = ST. CLAIR	TOTAL SHEETS = 406	SHEET NO. = 202	
USER NAME = elagemann	CHECKED - T.S. Friederich	REVISED			CONTRACT NO. 76G09					
PLOT SCALE =	DRAWN - J.N. Bailey	REVISED			ILLINOIS FED. AID PROJECT					
PLOT DATE = 8/7/2014	CHECKED - T.S. Friederich	REVISED			SHEET NO. 10 OF 143 SHEETS					

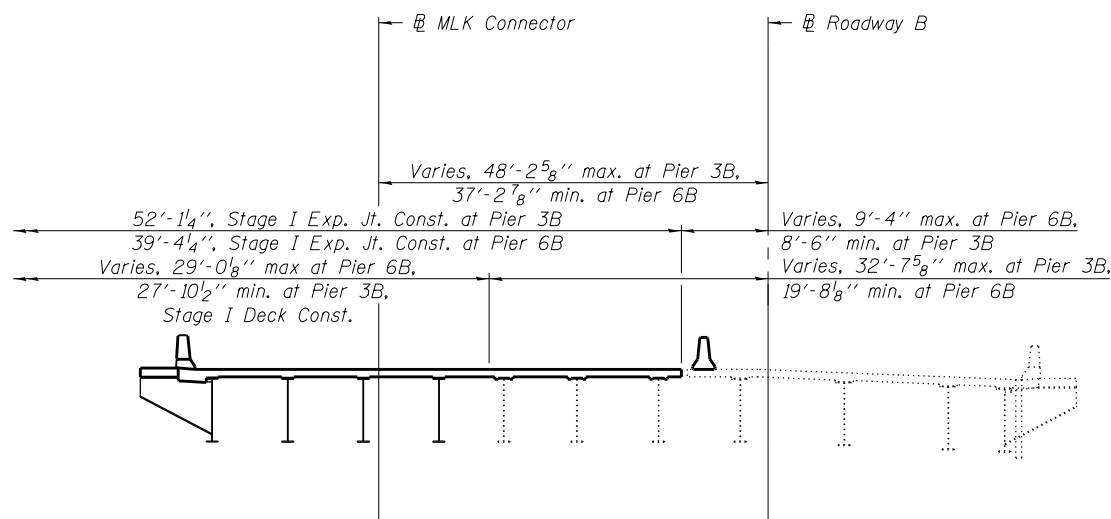


STAGE I REMOVAL

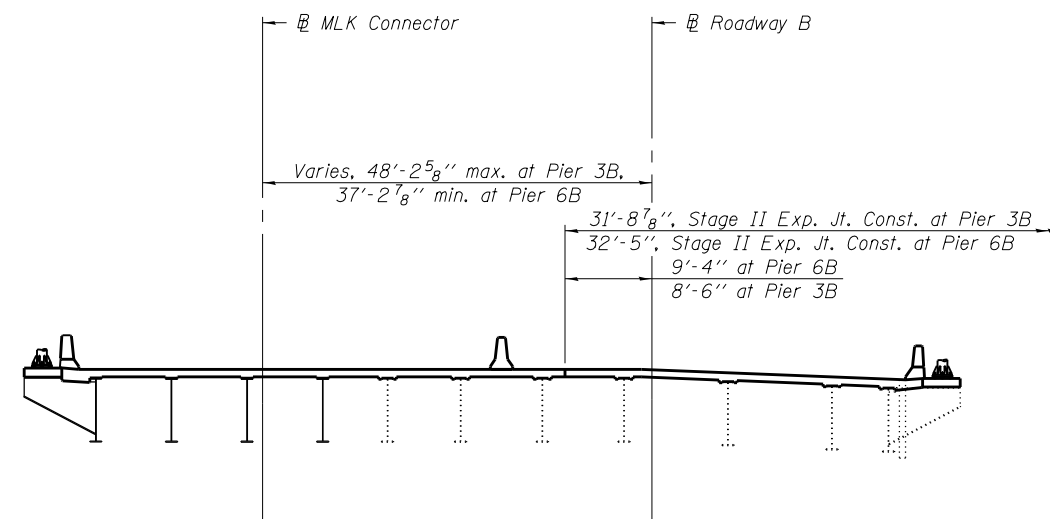


STAGE II REMOVAL

* Dimensions measured perpendicular to the direction of travel.
 ** Varies, 8'-10" max. at Pier 6B, 8'-0" min. at Pier 3B
 *** Varies, 19'-5" max. at Pier 3B, 12'-0" min. at Pier 6B, Thru and Exit Lane

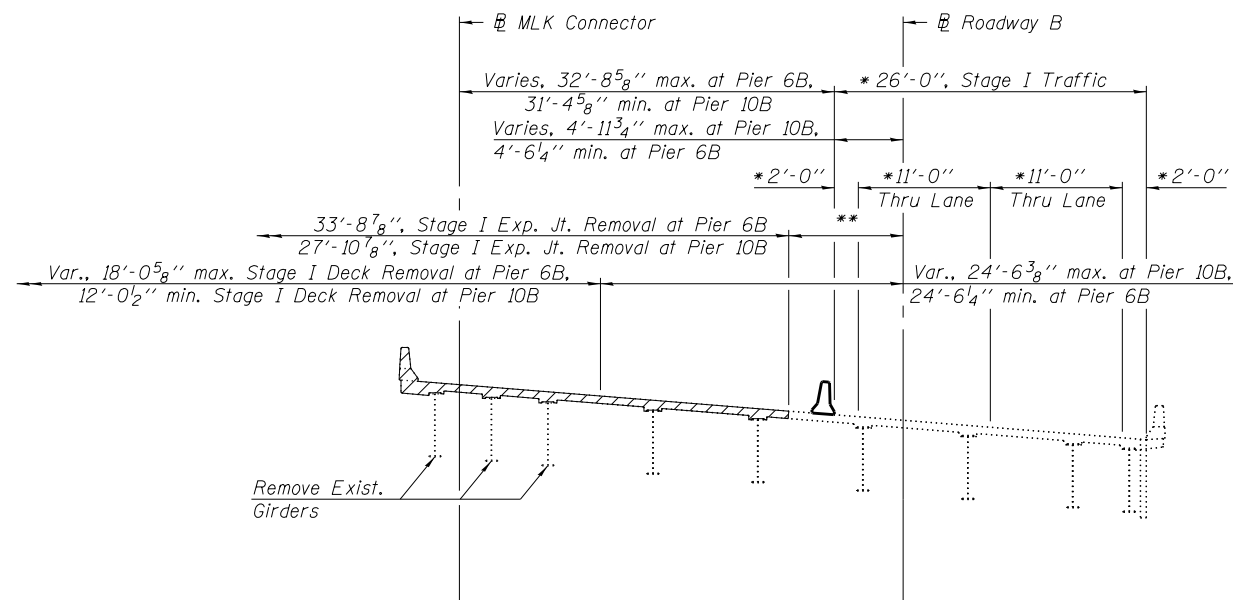


STAGE I CONSTRUCTION

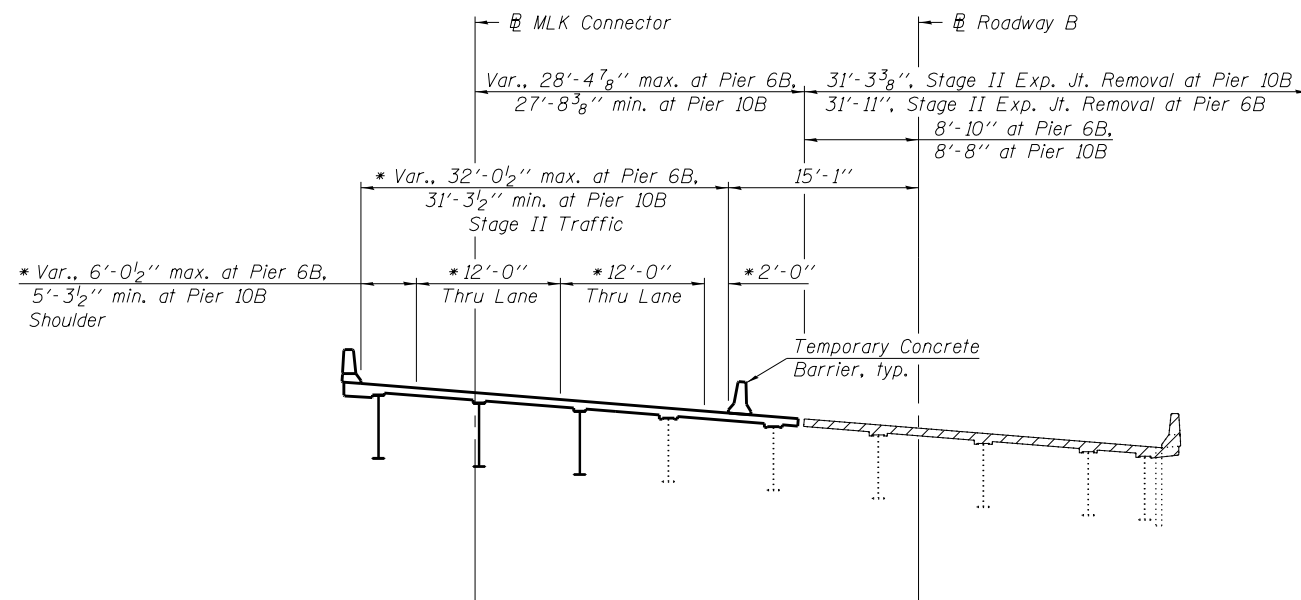


STAGE II CONSTRUCTION

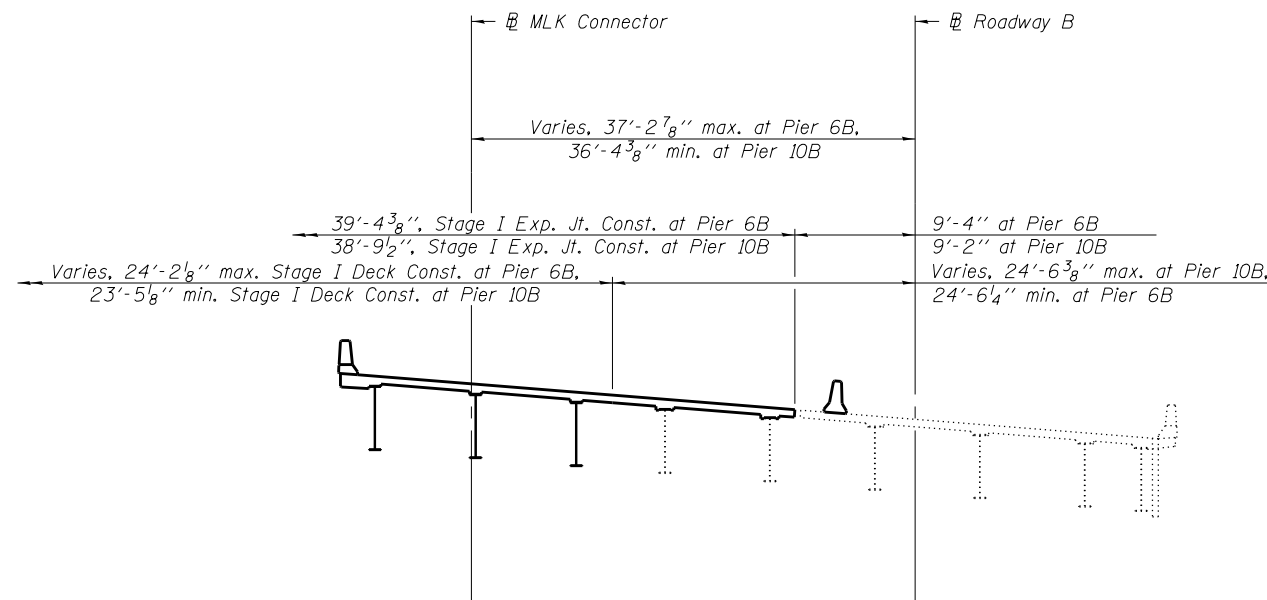
Notes:
 All sections looking north.
 For quantity of Temporary Concrete Barrier, see roadway plans.
 For Temporary Concrete Barrier Details, see sheet 14 of 143.
 Hatched area indicates Concrete Removal.
 All dimensions shown are measured perpendicular to Roadway B, except as shown.



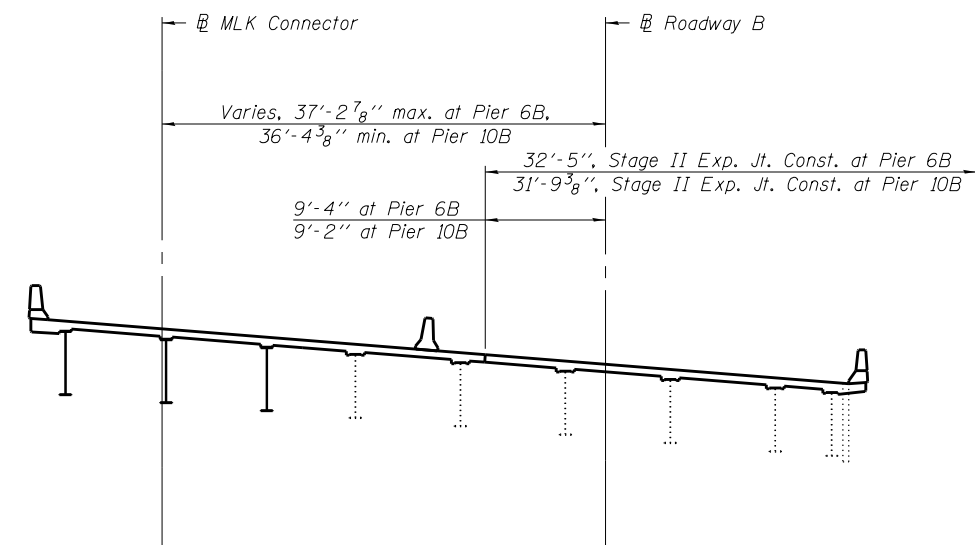
STAGE I REMOVAL



STAGE II REMOVAL



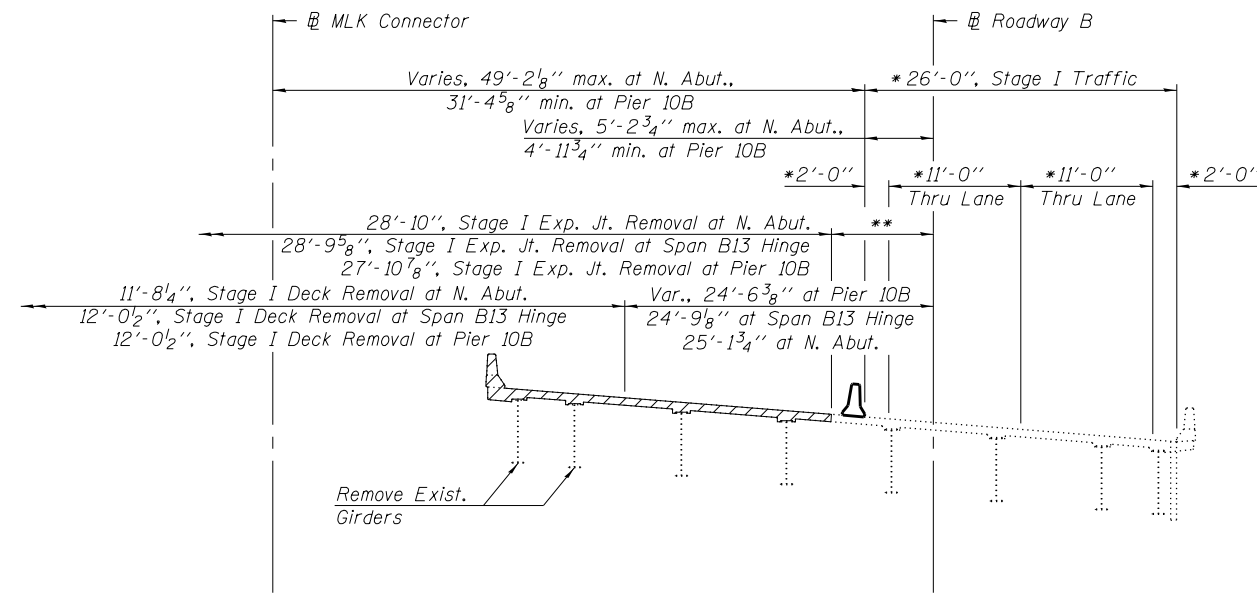
STAGE I CONSTRUCTION



STAGE II CONSTRUCTION

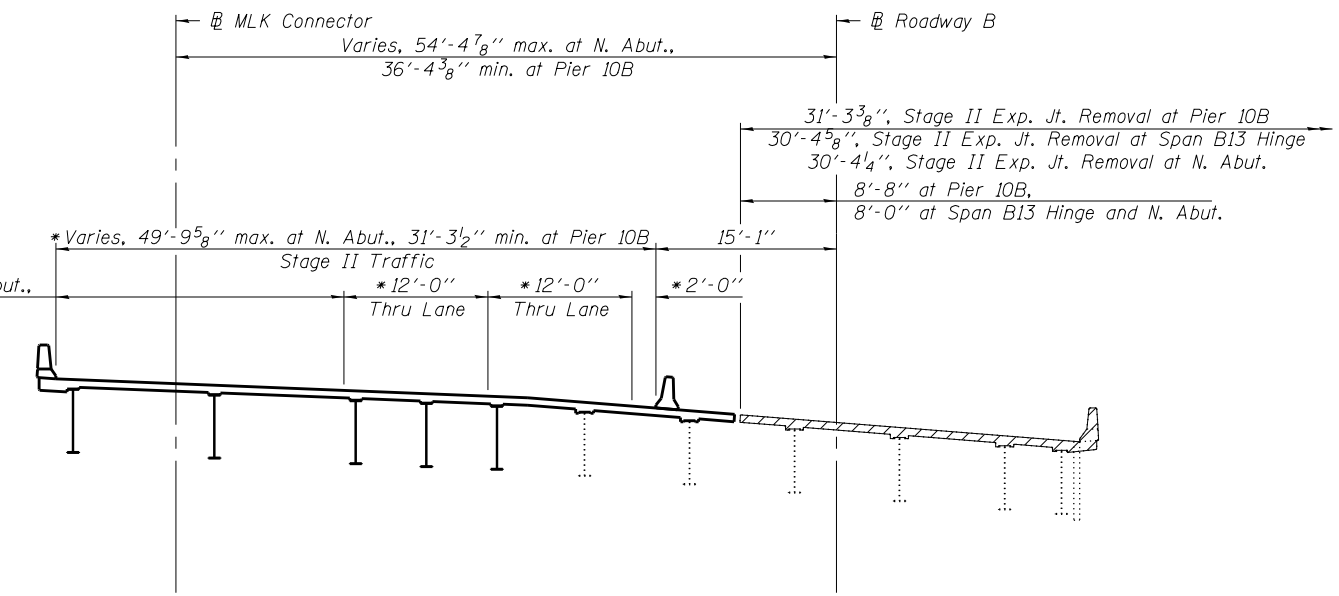
Notes:
 All sections looking north.
 For quantity of Temporary Concrete Barrier, see roadway plans.
 For Temporary Concrete Barrier Details, see sheet 14 of 143.
 Hatched area indicates Concrete Removal.
 All dimensions shown are measured perpendicular to Roadway B, except as shown.

* Dimensions measured perpendicular to the direction of travel.
 ** 8'-10" at Pier 6B, 8'-8" at Pier 10B

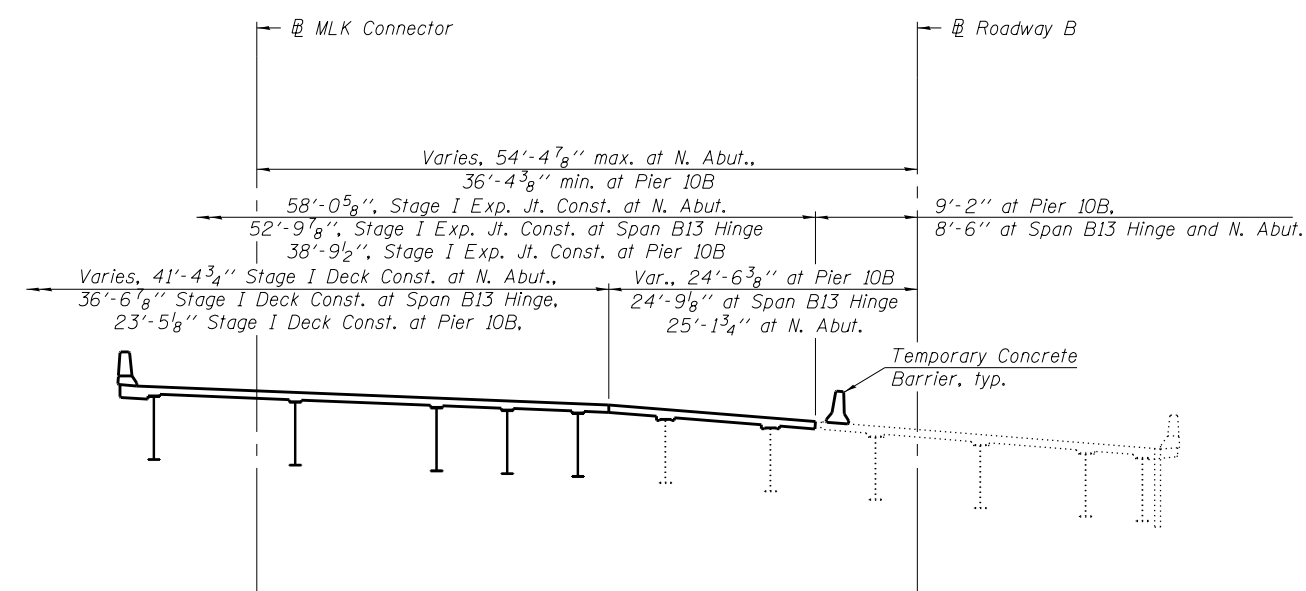


STAGE I REMOVAL

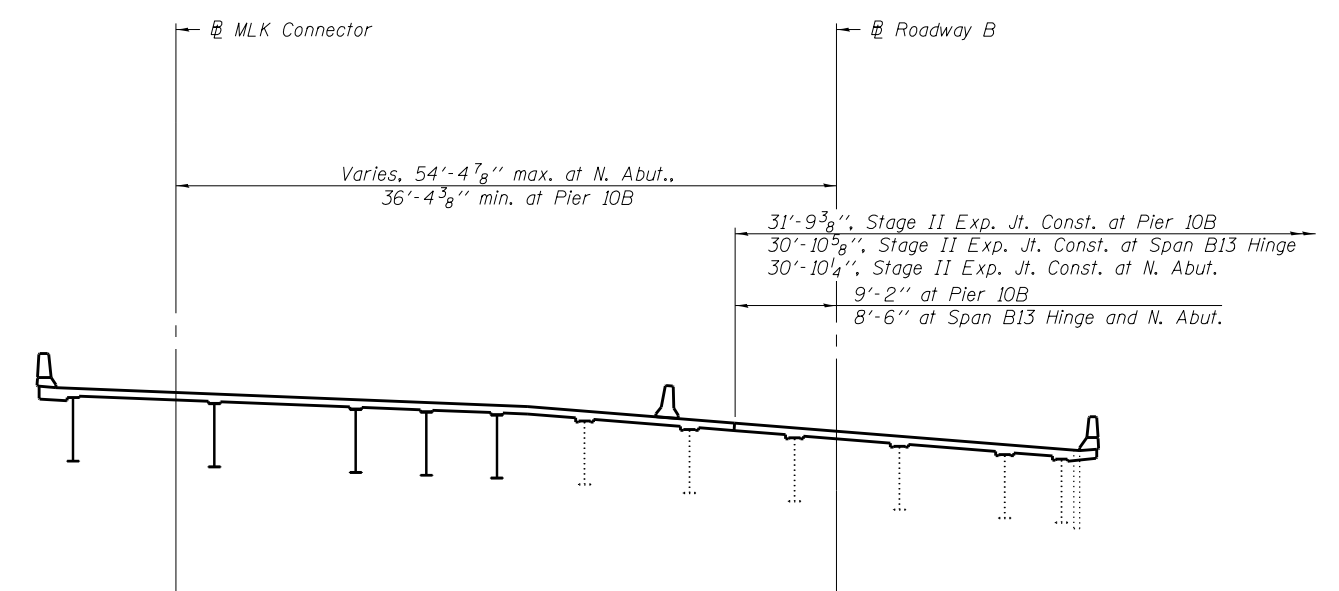
*Varies, 23'-9 5/8" max. at N. Abut.,
5'-3 1/2" min. at Pier 10B,
Shoulder



STAGE II REMOVAL



STAGE I CONSTRUCTION



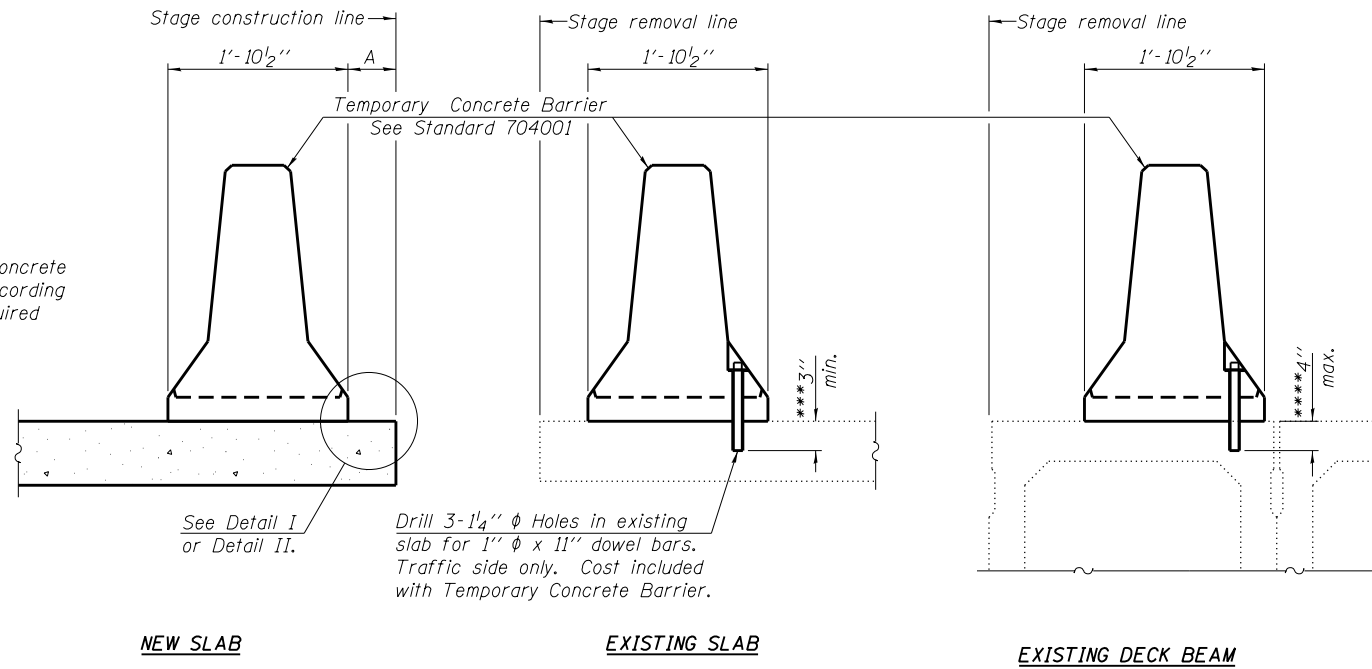
STAGE II CONSTRUCTION

Notes:
 All sections looking north.
 For quantity of Temporary Concrete Barrier, see roadway plans.
 For Temporary Concrete Barrier Details, see sheet 14 of 143.
 Hatched area indicates Concrete Removal.
 All dimensions shown are measured perpendicular to Roadway B, except as shown.

* Dimensions measured perpendicular to the direction of travel.
 ** 8'-8" at Pier 10B, 8'-0" at Span 13 Hinge and N. Abut.

FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn 	DESIGNED - E.M. Lagemann	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS - UNIT 4 STRUCTURE NO. 082-0010	F.A.I. RE. 64	SECTION 82-(1,4)B-1	COUNTY ST. CLAIR	TOTAL SHEETS 406	SHEET NO. 205
	USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	CHECKED - T.S. Friederich DRAWN - J.N. Bailey CHECKED - T.S. Friederich			REVISED REVISED REVISED	SHEET NO. 13 OF 143 SHEETS	CONTRACT NO. 76C09 ILLINOIS FED. AID PROJECT		

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

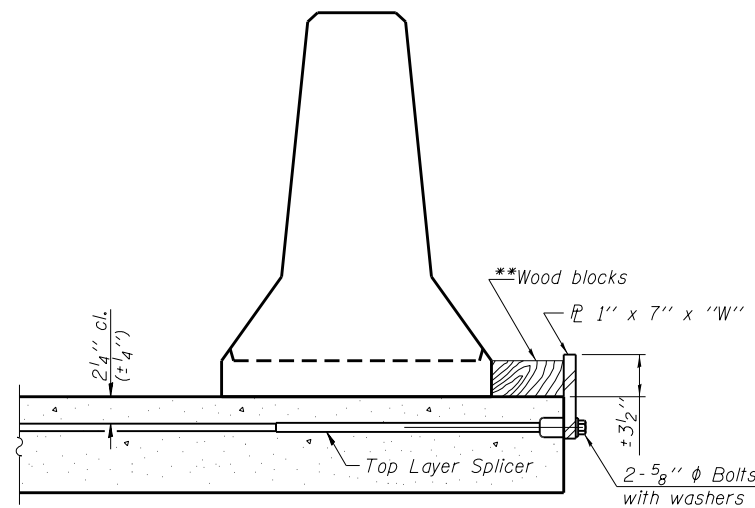
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

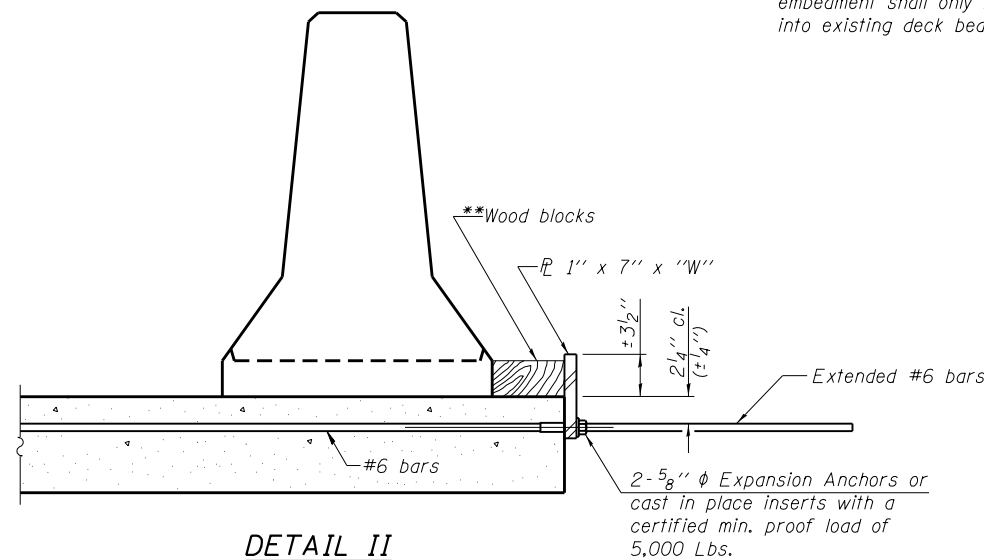
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

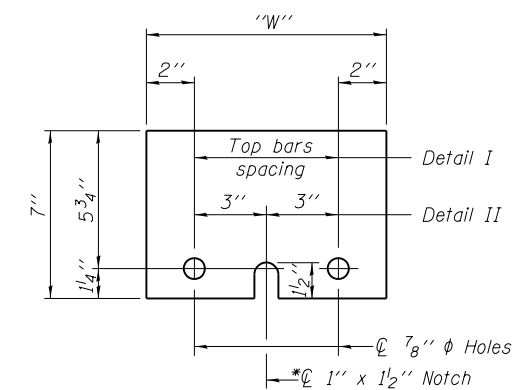
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



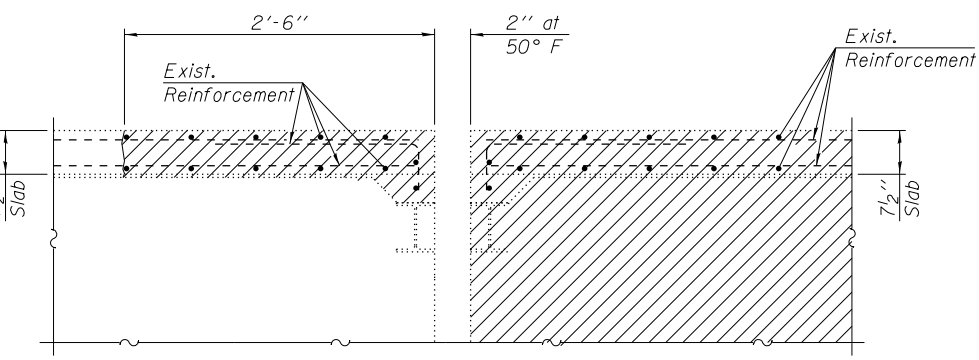
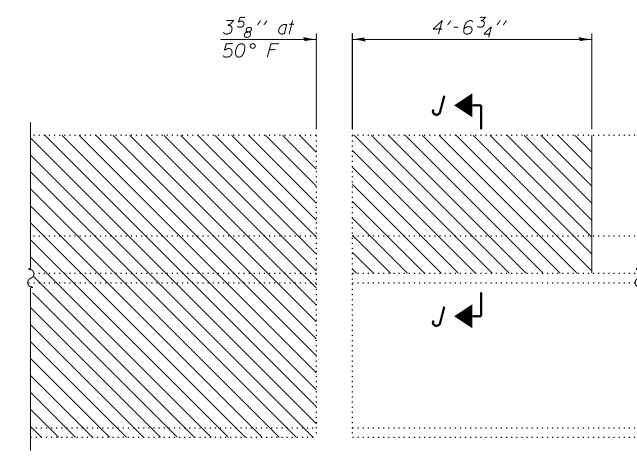
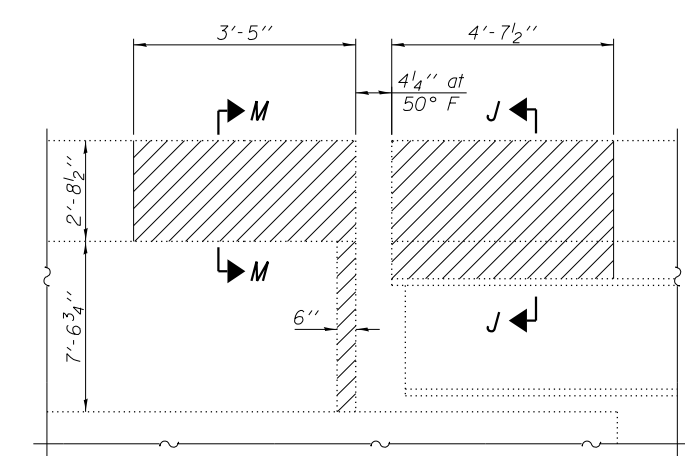
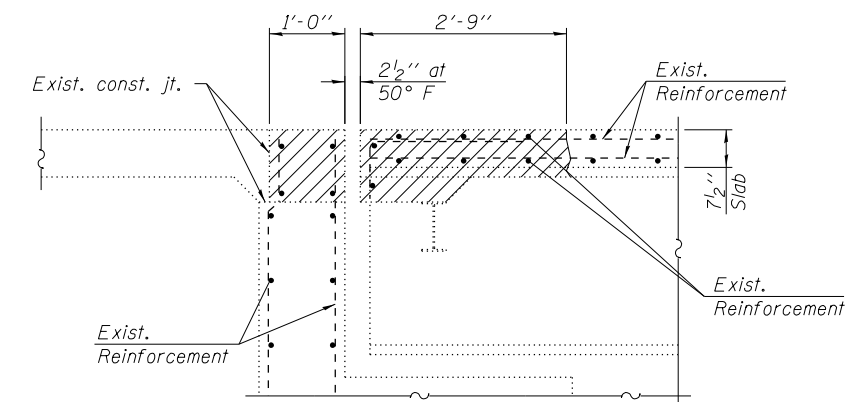
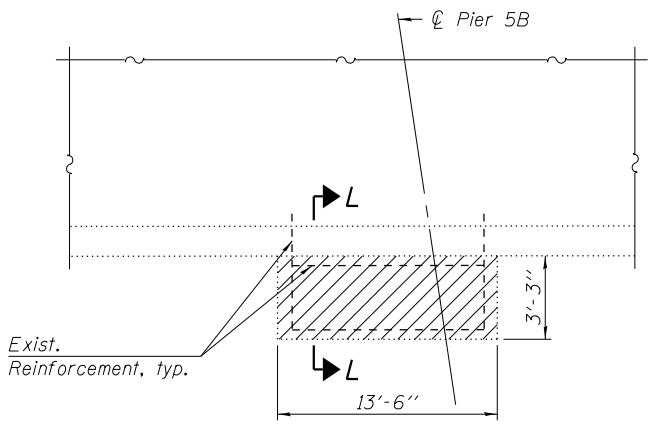
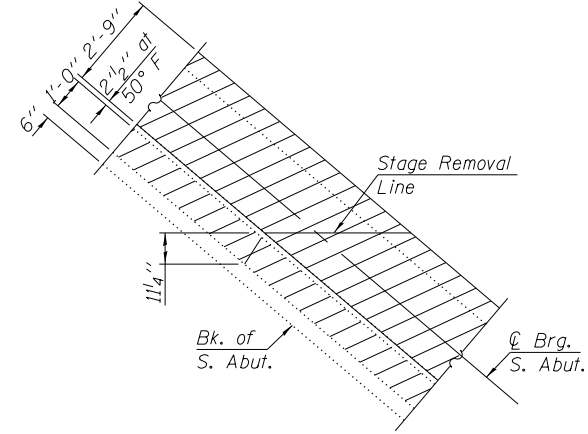
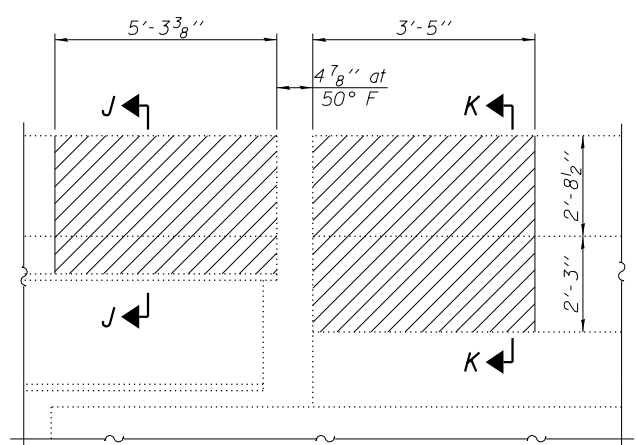
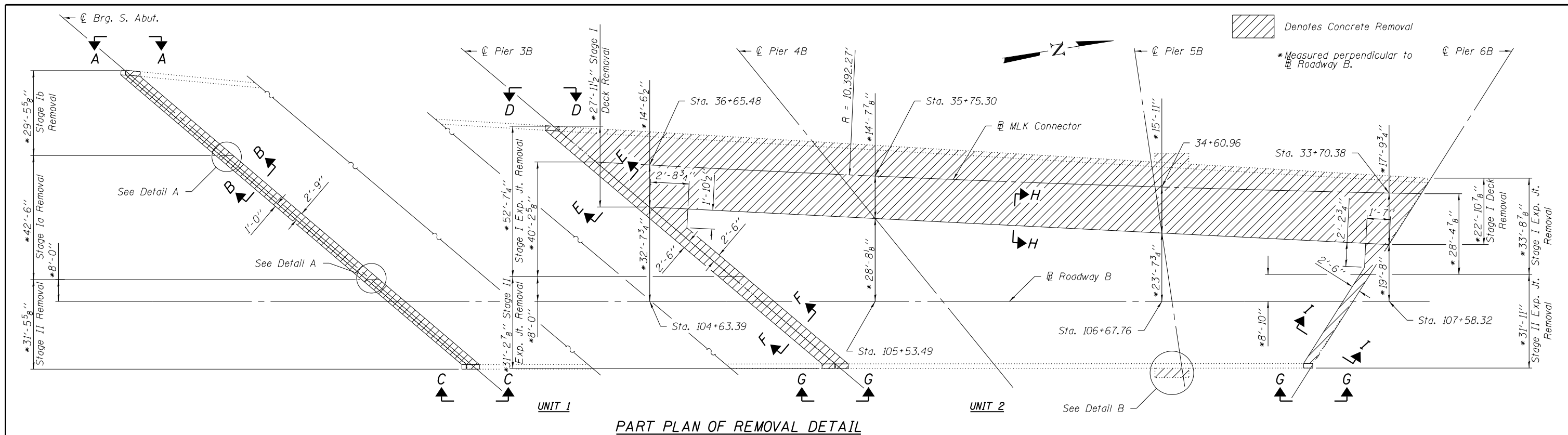
STEEL RETAINER PL 1" x 7" x "W"

* Required only with Detail II

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.


"W" = Top bars spacing + 4"

FILE NAME = X:\1309400-MLK\Cad\15082000-76609.dgn 	DESIGNED -	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 082-0010	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	CHECKED - DRAWN - J.N. Bailey CHECKED - T.S. Friederich			REVISED REVISED REVISED REVISED	64	82-(1,4)B-1	ST. CLAIR	406
				SHEET NO. 14 OF 143 SHEETS	CONTRACT NO. 76609		ILLINOIS FED. AID PROJECT		

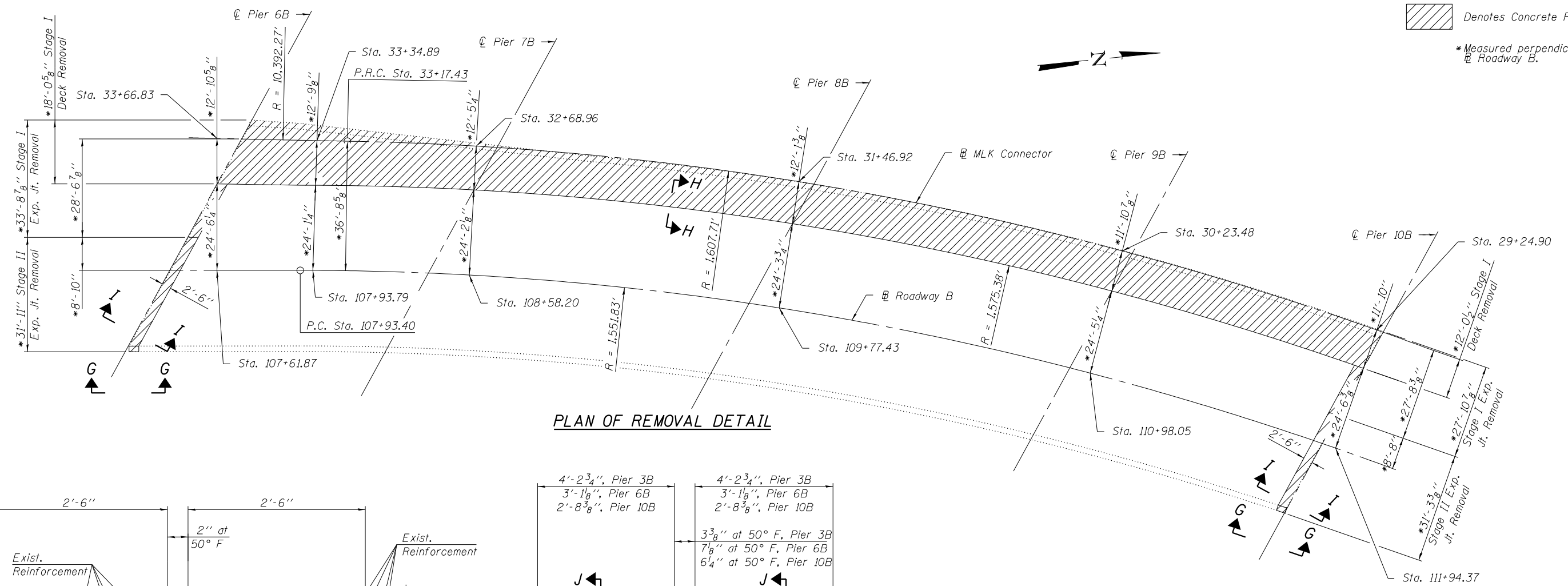


Notes:
 Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".
 For Sections F-F, H-H, I-I, J-J, K-K, L-L, and View G-G, see sheet 16 of 143.

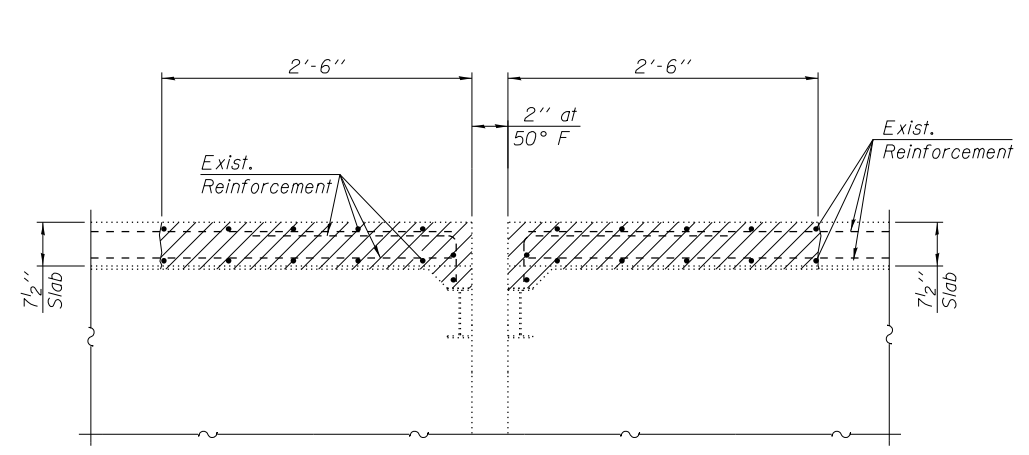
FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn HORNER & SHIFRIN, INC. ENGINEERS	USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - T.S. Friederich CHECKED - E.M. Lagemann DRAWN - S.R. Hooker CHECKED - E.M. Lagemann	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REMOVAL DETAILS - UNITS 1 & 2 STRUCTURE NO. 082-0010 SHEET NO. 15 OF 143 SHEETS	F.A.I. R.T.E. = 64 SECTION = 82-1,41B-1 COUNTY = ST. CLAIR TOTAL SHEETS = 406 SHEET NO. = 207 CONTRACT NO. = 76C09	ILLINOIS FED. AID PROJECT

 Denotes Concrete Removal

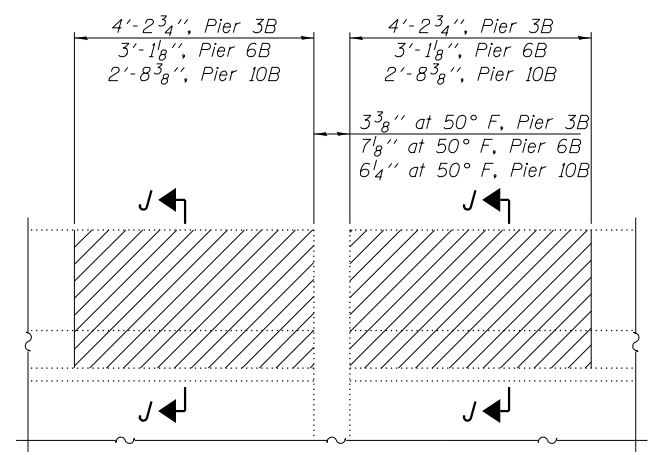
*Measured perpendicular to Roadway B.



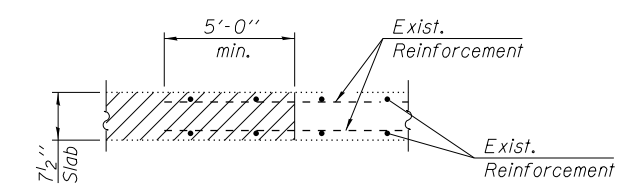
PLAN OF REMOVAL DETAIL



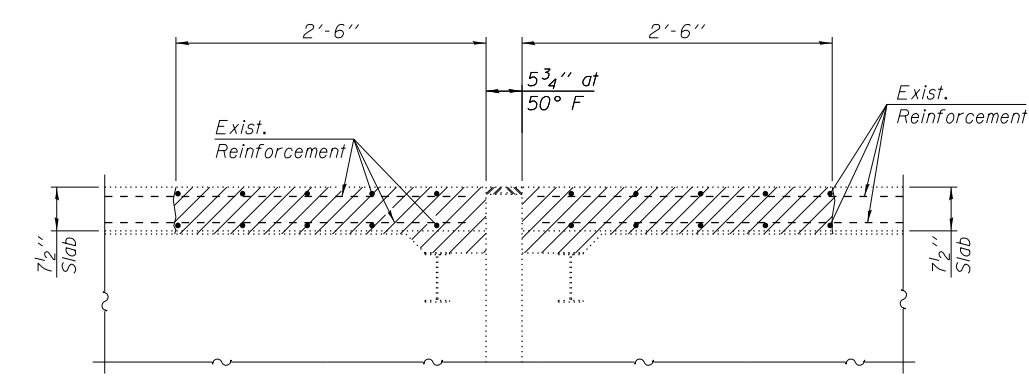
SECTION F-F
(Horiz. dim. at right L's)



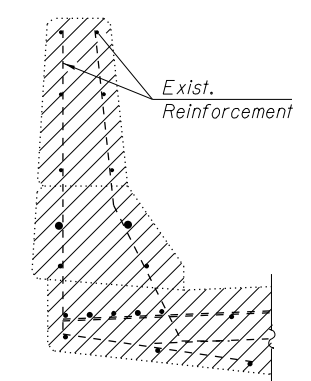
VIEW G-G



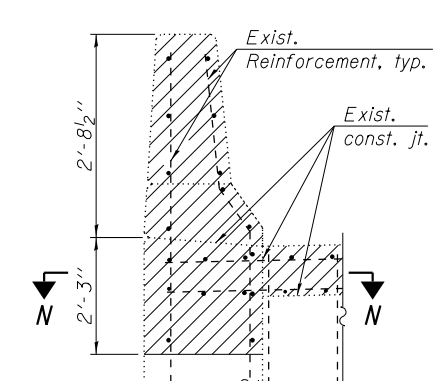
SECTION H-H
(Horiz. dim. at right L's)



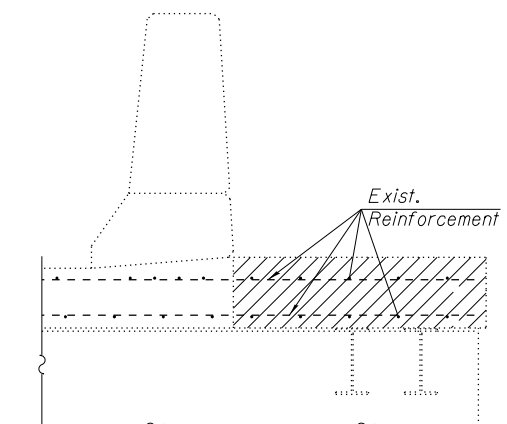
SECTION I-I
(Horiz. dim. at right L's)



SECTION J-J




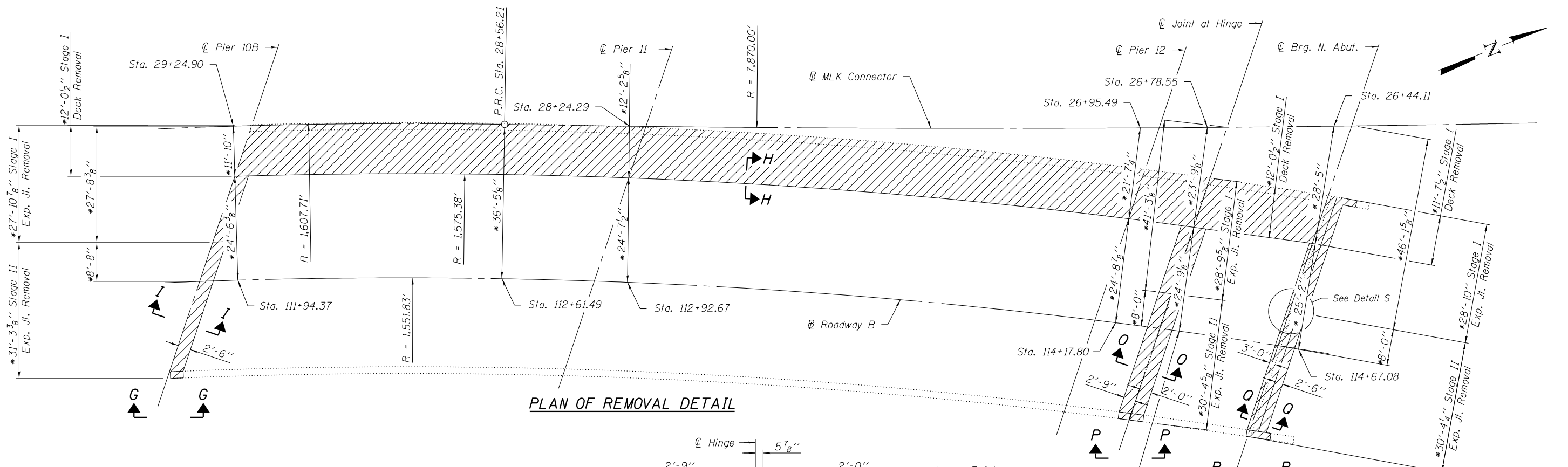
SECTION K-K



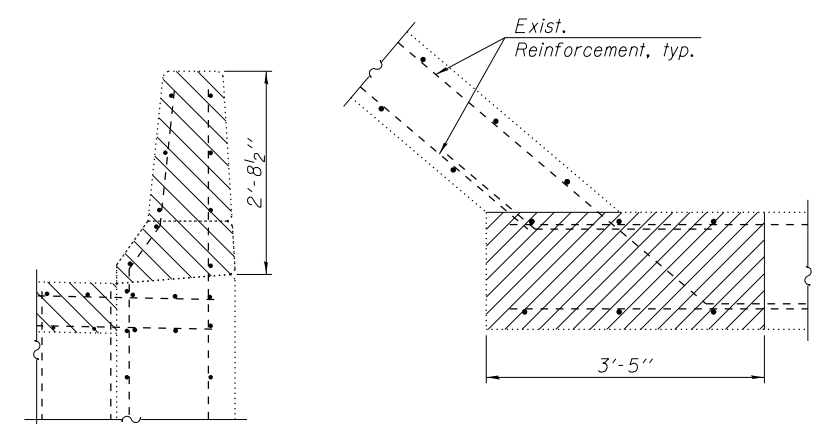
SECTION L-L

Note:
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".

FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn 	DESIGNED - T.S. Friederich	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REMOVAL DETAILS - UNIT 3 STRUCTURE NO. 082-0010 SHEET NO. 16 OF 143 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann DRAWN - S.R. Hooker CHECKED - E.M. Lagemann			REVISED REVISED REVISED	64	82-1,41B-1	ST. CLAIR	406
						ILLINOIS FED. AID PROJECT			

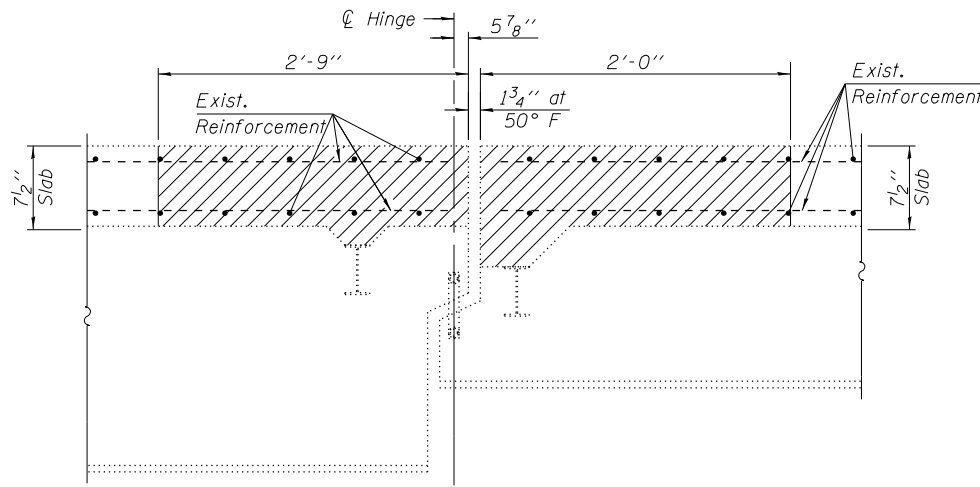


PLAN OF REMOVAL DETAIL

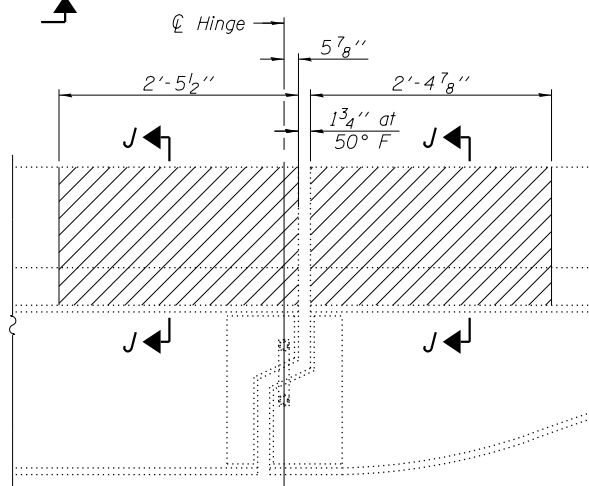


SECTION M-M

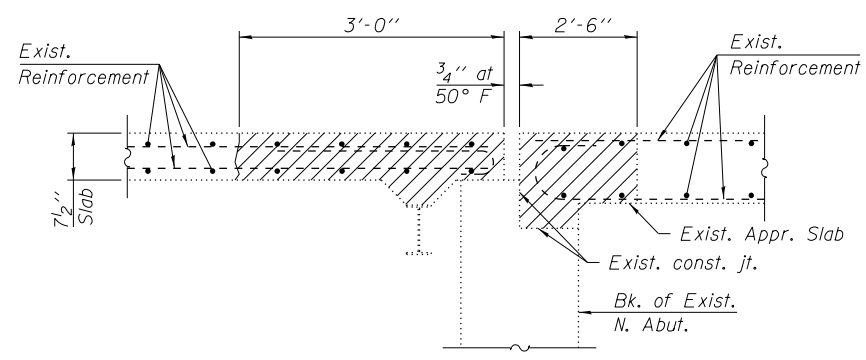
SECTION N-N



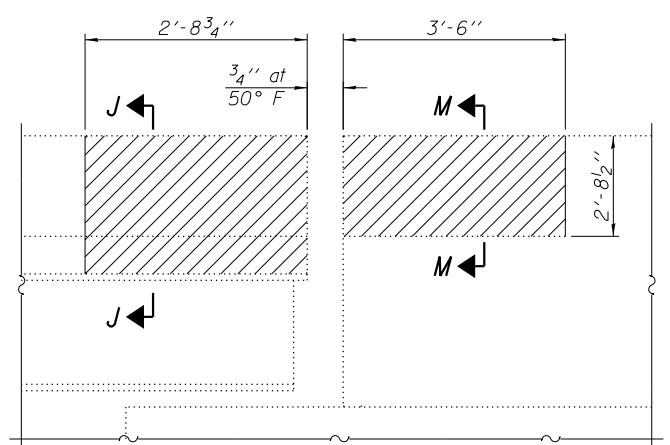
SECTION O-O
(Horiz. dim. at right L's)



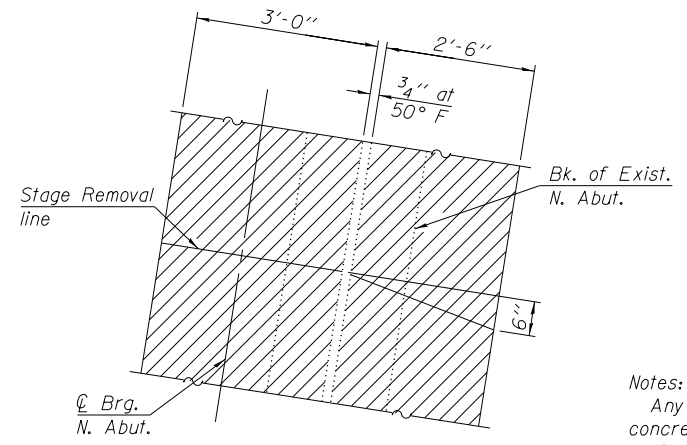
VIEW P-P



SECTION Q-Q
(Horiz. dim. at right L's)



VIEW R-R

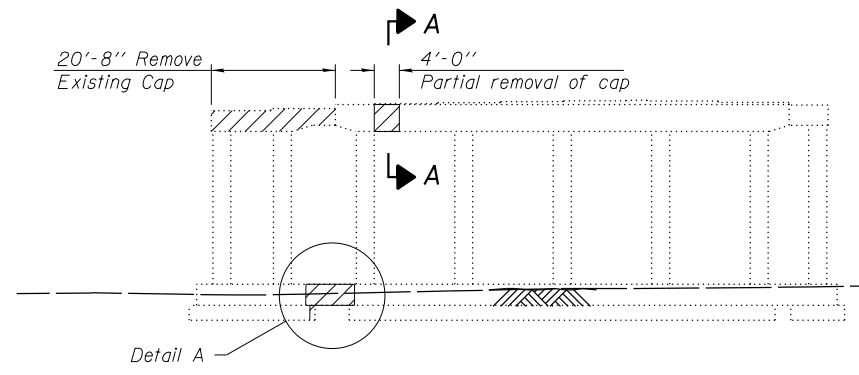


DETAIL S

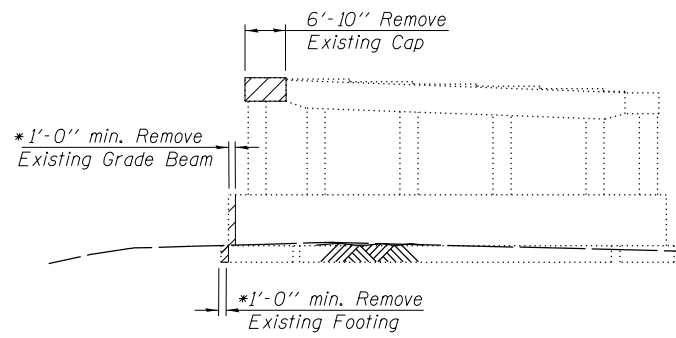
Denotes Concrete Removal
*Measured perpendicular to Roadway B.

Notes:
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".
For Sections H-H, J-J, and View G-G, see sheet 16 of 143.

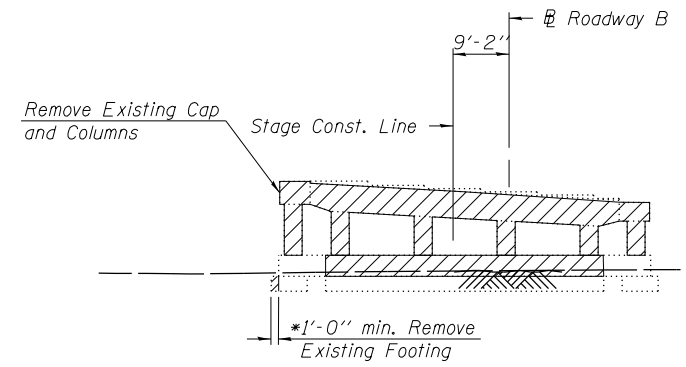
FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn 	USER NAME = elagemann	DESIGNED - T.S. Friederich	REVISD	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REMOVAL DETAILS - UNIT 4 STRUCTURE NO. 082-0010 SHEET NO. 17 OF 143 SHEETS	F.A.I. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	DRAWN - S.R. Hooker	REVISD			64	82-(1,4)B-1	ST. CLAIR	406	209
	PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann	REVISD			CONTRACT NO. 76G09		ILLINOIS FED. AID PROJECT		



PIER 4B

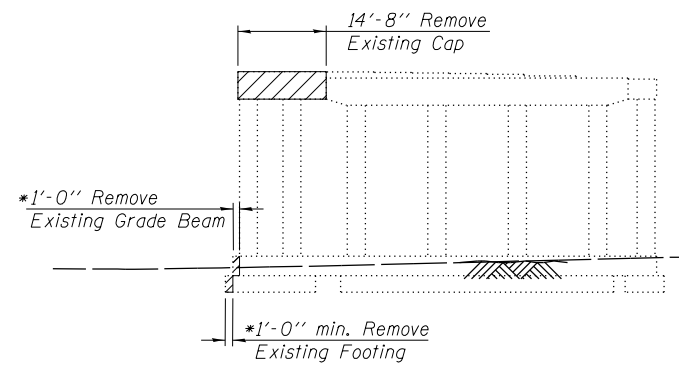


PIER 7B

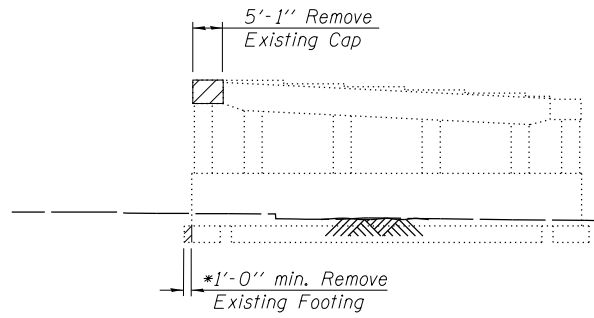


PIER 10B

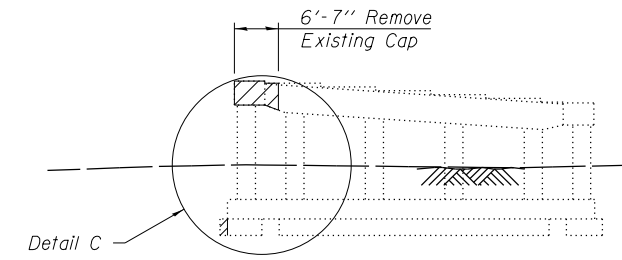
* Minimum footing and Grade Beam removals shown, Contractor shall adjust removal length as required for Mechanical Splicers.



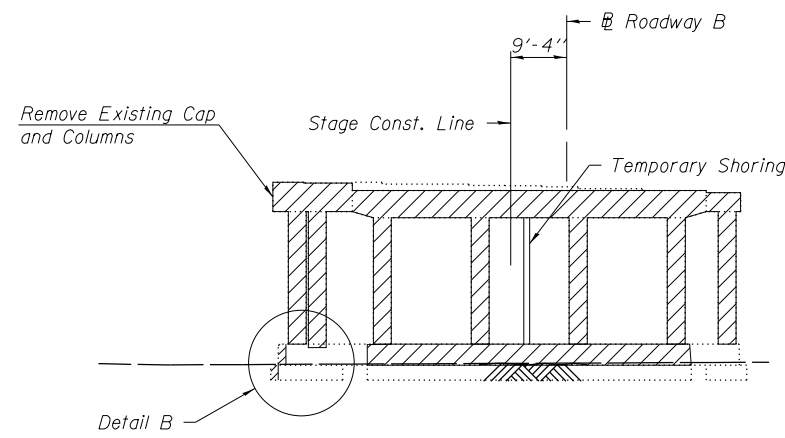
PIER 5B



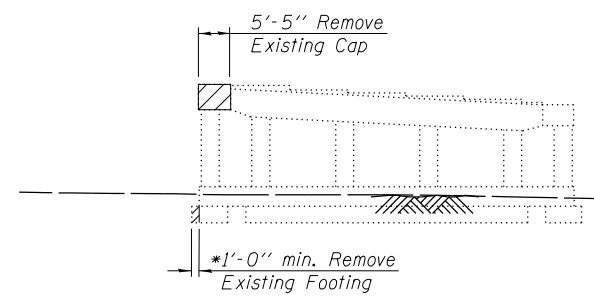
PIER 8B



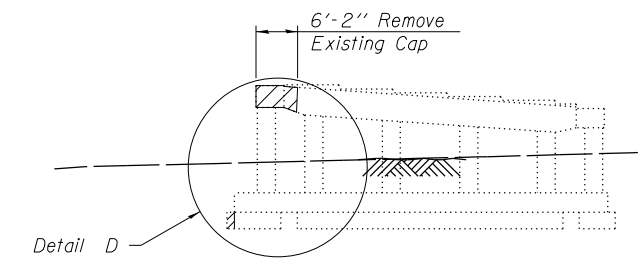
PIER 11B



PIER 6B



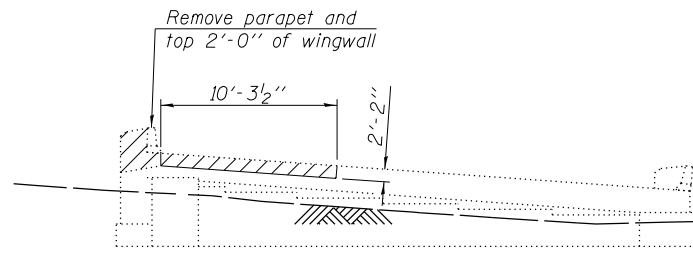
PIER 9B



PIER 12B

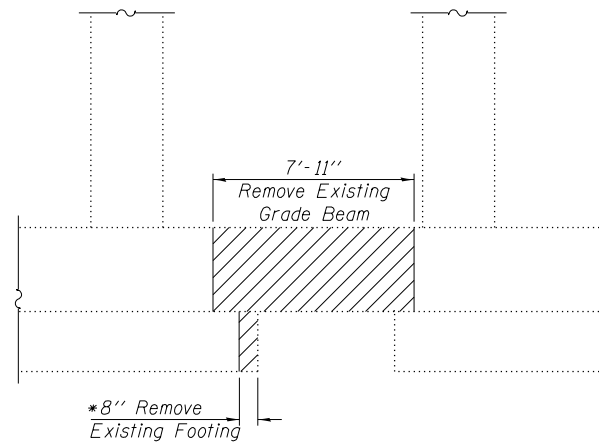
Notes:
 For Section A-A, Detail A, Detail B, Detail C, and Detail D, see sheet 19 of 143.
 All elevations are looking north.
 [Hatched Box] Indicates areas of Concrete Removal.

FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn HORNER & SHIFRIN, INC. ENGINEERS	USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - J.J. Derner CHECKED - M.A. Chorkey DRAWN - S.R. Hooker CHECKED - E.M. Lagemann	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REMOVAL DETAILS - SUBSTRUCTURE STRUCTURE NO. 082-0010 SHEET NO. 18 OF 143 SHEETS	F.A.I. RTE. = 64 SECTION = 82-(1,4)B-1 COUNTY = ST. CLAIR TOTAL SHEETS = 406 SHEET NO. = 210 CONTRACT NO. = 76G09 ILLINOIS FED. AID PROJECT

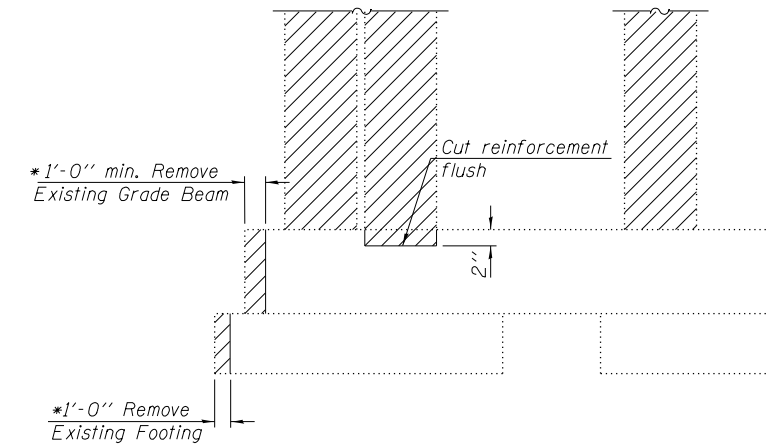


NORTH ABUTMENT
(Looking North)

Note:
For remainder of hatch block removal,
see sheet 17 of 143

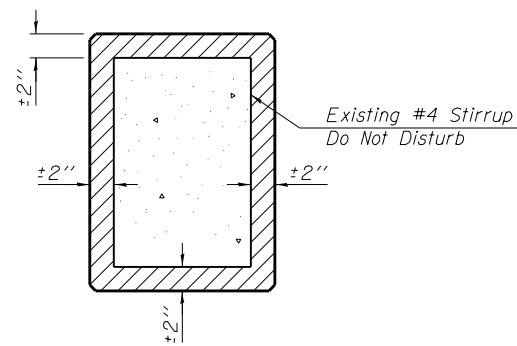


DETAIL A

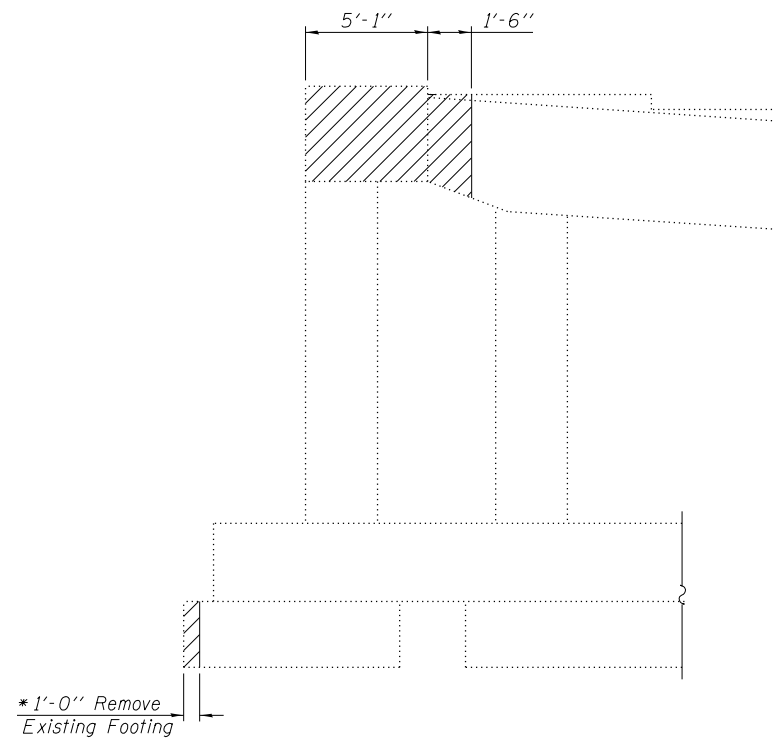


DETAIL B

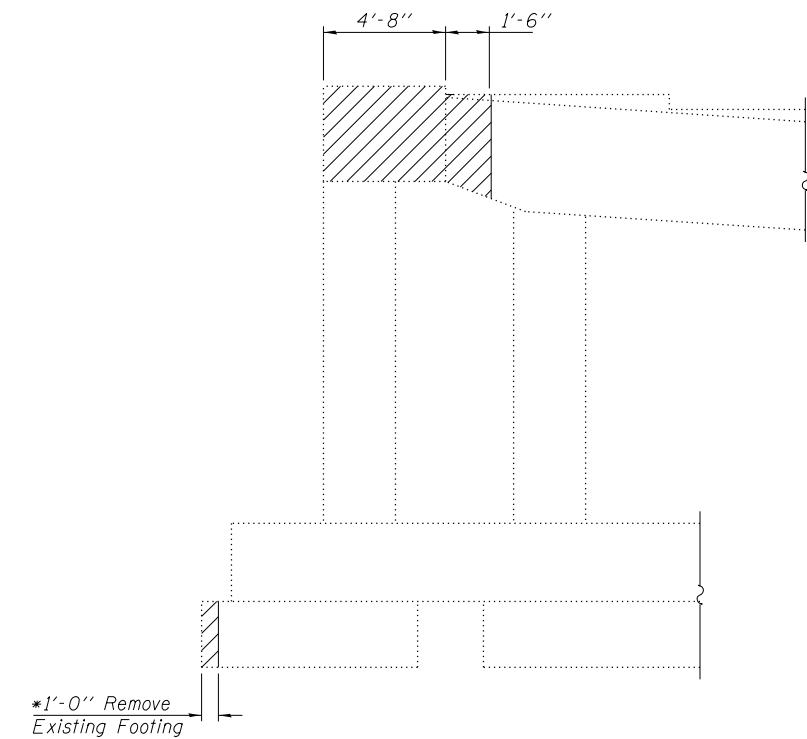
*Minimum Footing and Grade Beam removals shown. Contractor shall adjust removal length as required for Mechanical Splicers.



SECTION A-A



DETAIL C

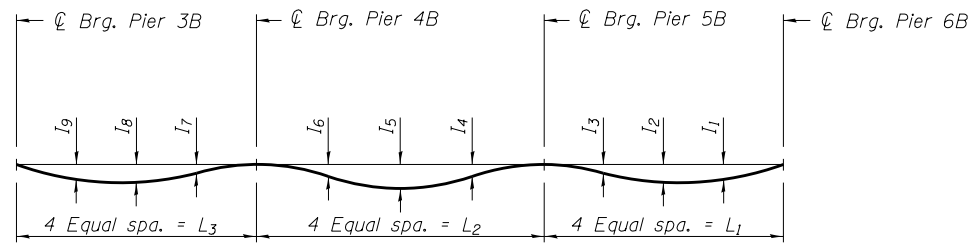


DETAIL D

Note:
For locations of Section A-A, Detail A,
Detail B, Detail C, and Detail D, see sheet
18 of 143.

Indicates areas of Concrete Removal.

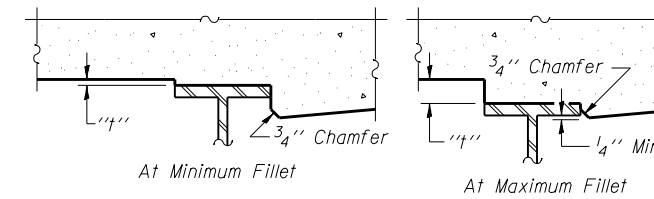
FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn 	DESIGNED - J.J. Derner	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REMOVAL DETAILS - SUBSTRUCTURE STRUCTURE NO. 082-0010	F.A.I. RTE. = 64	SECTION = 82-(1,4)B-1	COUNTY = ST. CLAIR	TOTAL SHEETS = 406	SHEET NO. = 211
	USER NAME = elagemann	CHECKED - M.A. Chorkey			REVISED	CONTRACT NO. 76G09		ILLINOIS FED. AID PROJECT	
PLOT SCALE =	DRAWN - S.R. Hooker	REVISED		SHEET NO. 19 OF 143 SHEETS					
PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann	REVISED							



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 21 and 22 of 143.

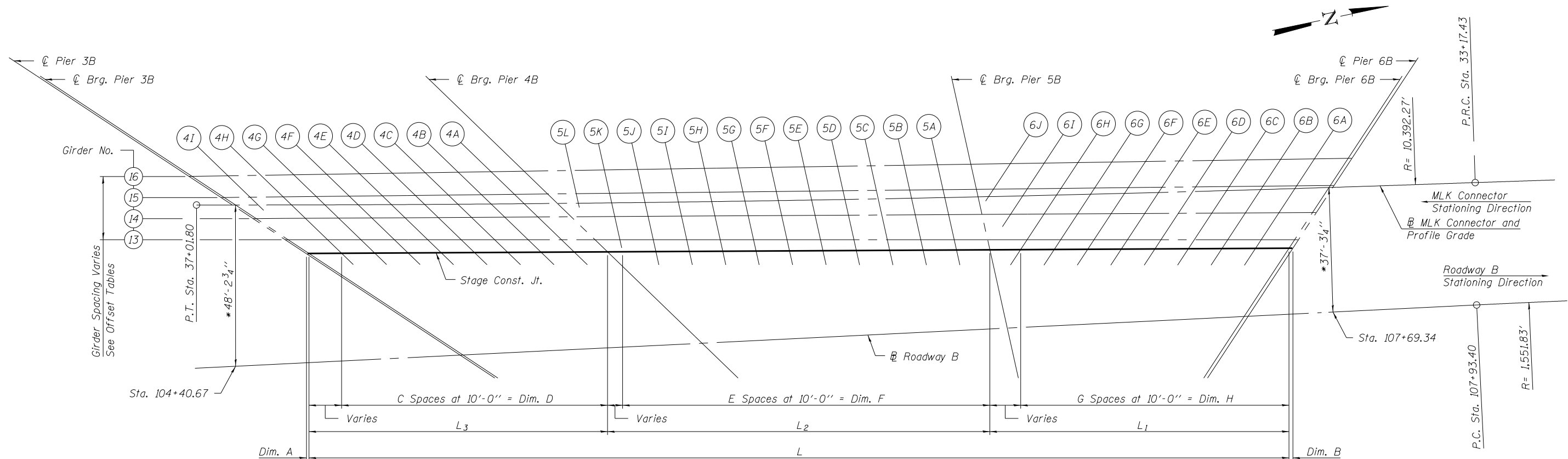


To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 21 and 22 of 143, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

TABLE OF VARIABLE DIMENSIONS

Location	Dim. A	Dim. B	C	Dim. D	E	Dim. F	G	Dim. H	I ₁	I ₂	I ₃	I ₄	I ₅	I ₆	I ₇	I ₈	I ₉
Stage Const. Jt.	10 ³ / ₁₆ "	1'-1 ³ / ₁₆ "	8	80'-0"	10	100'-0"	8	80'-0"	---	---	---	---	---	---	---	---	---
Girder No. 13	10 ³ / ₈ "	1'-1 ³ / ₄ "	8	80'-0"	11	110'-0"	8	80'-0"	1/4"	1/4"	1/8"	1/4"	1/2"	1/4"	1/8"	1/4"	1/4"
Girder No. 14	10 ³ / ₁₆ "	1'-1 ³ / ₁₆ "	8	80'-0"	11	110'-0"	9	90'-0"	1/2"	5/8"	1/4"	3/8"	5/8"	3/8"	1/8"	3/8"	1/4"
Profile Grade	10 ³ / ₈ "	1'-2 ¹ / ₁₆ "	9	90'-0"	12	120'-0"	10	100'-0"	5/8"	3/4"	3/8"	3/8"	3/4"	3/8"	1/8"	3/8"	3/8"
Girder No. 15	10 ³ / ₄ "	1'-1 ³ / ₈ "	9	90'-0"	12	120'-0"	10	100'-0"	3/4"	7/8"	3/8"	3/8"	3/4"	1/2"	1/8"	3/8"	3/8"
Girder No. 16	10 ⁵ / ₈ "	1'-1 ⁵ / ₁₆ "	9	90'-0"	12	120'-0"	10	100'-0"	1"	1 1/4"	5/8"	1"	7/8"	5/8"	1/4"	1/2"	1/2"



*Measured perpendicular to MLK Connector

PLAN

Notes:
Horizontal dimensions shown are measured along G Girder, Stage Construction Joint, or Profile Grade.
For Table of "L" Dimensions and Girder Offset Tables, see sheet 65 of 143.

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓞ Pier 6B	33+70.05	-17.81	450.02	450.02
Ⓞ Brg. Pier 6B	33+71.20	-17.78	450.03	450.03
6A	33+81.18	-17.53	450.16	450.16
6B	33+91.16	-17.30	450.27	450.27
6C	34+01.14	-17.07	450.41	450.41
6D	34+11.12	-16.85	450.53	450.53
6E	34+21.10	-16.64	450.62	450.62
6F	34+31.08	-16.44	450.65	450.65
6G	34+41.07	-16.25	450.67	450.67
6H	34+51.05	-16.07	450.70	450.70
Ⓞ Brg. Pier 5B	34+60.53	-15.91	450.73	450.73
5A	34+70.51	-15.75	450.75	450.75
5B	34+80.50	-15.60	450.78	450.78
5C	34+90.48	-15.46	450.74	450.74
5D	35+00.46	-15.32	450.69	450.69
5E	35+10.45	-15.20	450.65	450.65
5F	35+20.43	-15.09	450.60	450.60
5G	35+30.42	-14.98	450.57	450.57
5H	35+40.40	-14.89	450.47	450.47
5I	35+50.39	-14.81	450.32	450.32
5J	35+60.37	-14.73	450.18	450.18
Ⓞ Brg. Pier 4B	35+74.73	-14.64	450.00	450.00
4A	35+84.72	-14.59	449.89	449.89
4B	35+94.71	-14.55	449.79	449.79
4C	36+04.69	-14.52	449.69	449.69
4D	36+14.68	-14.49	449.58	449.58
4E	36+24.66	-14.48	449.48	449.48
4F	36+34.65	-14.48	449.37	449.37
4G	36+44.64	-14.48	449.25	449.25
4H	36+54.62	-14.50	449.11	449.11
Ⓞ Brg. Pier 3B	36+63.90	-14.52	448.97	448.97
Ⓞ Pier 3B	36+64.80	-14.53	448.96	448.96

GIRDER 13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓞ Pier 6B	33+68.29	-15.31	450.09	450.09
Ⓞ Brg. Pier 6B	33+69.44	-15.28	450.10	450.10
6A	33+79.42	-14.97	450.22	450.23
6B	33+89.40	-14.68	450.33	450.35
6C	33+99.38	-14.40	450.46	450.48
6D	34+09.37	-14.12	450.57	450.60
6E	34+19.35	-13.86	450.67	450.69
6F	34+29.33	-13.61	450.71	450.72
6G	34+39.32	-13.36	450.72	450.73
6H	34+49.30	-13.13	450.75	450.75
Ⓞ Brg. Pier 5B	34+61.14	-12.86	450.78	450.78
5A	34+71.12	-12.65	450.80	450.80
5B	34+81.11	-12.44	450.81	450.83
5C	34+91.09	-12.25	450.76	450.78
5D	35+01.08	-12.06	450.70	450.73
5E	35+11.07	-11.88	450.64	450.68
5F	35+21.06	-11.72	450.59	450.63
5G	35+31.04	-11.56	450.53	450.57
5H	35+41.03	-11.42	450.42	450.45
5I	35+51.02	-11.28	450.27	450.29
5J	35+61.01	-11.15	450.13	450.14
5K	35+71.00	-11.03	449.99	449.99
Ⓞ Brg. Pier 4B	35+78.47	-10.95	449.90	449.90
4A	35+88.46	-10.85	449.78	449.79
4B	35+98.45	-10.76	449.68	449.69
4C	36+08.44	-10.68	449.57	449.58
4D	36+18.43	-10.60	449.46	449.49
4E	36+28.41	-10.54	449.35	449.38
4F	36+38.40	-10.49	449.24	449.27
4G	36+48.39	-10.44	449.11	449.13
4H	36+58.38	-10.41	448.96	448.98
Ⓞ Brg. Pier 3B	36+70.15	-10.38	448.79	448.79
Ⓞ Pier 3B	36+71.05	-10.38	448.78	448.78

GIRDER 14

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓞ Pier 6B	33+62.71	-7.37	450.31	450.31
Ⓞ Brg. Pier 6B	33+63.86	-7.34	450.33	450.33
6A	33+73.85	-7.09	450.43	450.45
6B	33+83.84	-6.84	450.52	450.55
6C	33+93.83	-6.61	450.61	450.66
6D	34+03.83	-6.39	450.71	450.76
6E	34+13.82	-6.18	450.80	450.84
6F	34+23.81	-5.98	450.85	450.89
6G	34+33.80	-5.78	450.87	450.89
6H	34+43.80	-5.60	450.87	450.89
6I	34+53.79	-5.43	450.88	450.89
Ⓞ Brg. Pier 5B	34+62.65	-5.28	450.90	450.90
5A	34+72.64	-5.12	450.91	450.91
5B	34+82.64	-4.98	450.89	450.90
5C	34+92.63	-4.84	450.80	450.83
5D	35+02.63	-4.72	450.72	450.76
5E	35+12.62	-4.60	450.63	450.68
5F	35+22.62	-4.49	450.55	450.60
5G	35+32.61	-4.39	450.45	450.51
5H	35+42.61	-4.30	450.32	450.36
5I	35+52.60	-4.23	450.16	450.20
5J	35+62.60	-4.16	450.02	450.04
5K	35+72.60	-4.10	449.87	449.88
Ⓞ Brg. Pier 4B	35+85.48	-4.04	449.70	449.70
4A	35+95.47	-4.00	449.57	449.57
4B	36+05.47	-3.97	449.46	449.47
4C	36+15.47	-3.95	449.35	449.37
4D	36+25.46	-3.94	449.24	449.27
4E	36+35.46	-3.94	449.13	449.16
4F	36+45.45	-3.96	449.00	449.04
4G	36+55.45	-3.98	448.86	448.89
4H	36+65.45	-4.01	448.72	448.74
Ⓞ Brg. Pier 3B	36+79.70	-4.06	448.52	448.52
Ⓞ Pier 3B	36+80.60	-4.07	448.51	448.51

Notes:
 Stationing and Theoretical Grade Elevations based off of Ⓞ MLK Connector.
 All offsets based off of Ⓞ MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.

PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊙ Pier 6B	33+57.53	0.00	450.56	450.56
⊙ Brg. Pier 6B	33+58.70	0.00	450.55	450.55
6A	33+68.70	0.00	450.63	450.65
6B	33+78.70	0.00	450.70	450.74
6C	33+88.70	0.00	450.76	450.81
6D	33+98.70	0.00	450.83	450.88
6E	34+08.70	0.00	450.90	450.95
6F	34+18.70	0.00	450.97	451.02
6G	34+28.70	0.00	450.98	451.01
6H	34+38.70	0.00	450.98	451.00
6I	34+48.70	0.00	450.97	450.98
6J	34+58.70	0.00	450.98	450.98
⊙ Brg. Pier 5B	34+63.71	0.00	450.98	450.98
5A	34+73.71	0.00	450.98	450.98
5B	34+83.71	0.00	450.93	450.94
5C	34+93.71	0.00	450.82	450.85
5D	35+03.71	0.00	450.72	450.76
5E	35+13.71	0.00	450.61	450.67
5F	35+23.71	0.00	450.51	450.57
5G	35+33.71	0.00	450.40	450.46
5H	35+43.71	0.00	450.25	450.30
5I	35+53.71	0.00	450.09	450.14
5J	35+63.71	0.00	449.94	449.97
5K	35+73.71	0.00	449.80	449.81
5L	35+83.71	0.00	449.65	449.66
⊙ Brg. Pier 4B	35+89.57	0.00	449.57	449.57
4A	35+99.57	0.00	449.45	449.45
4B	36+09.57	0.00	449.33	449.34
4C	36+19.57	0.00	449.22	449.24
4D	36+29.57	0.00	449.11	449.13
4E	36+39.57	0.00	448.99	449.03
4F	36+49.57	0.00	448.87	448.90
4G	36+59.57	0.00	448.72	448.74
4H	36+69.57	0.00	448.58	448.60
4I	36+79.57	0.00	448.44	448.44
⊙ Brg. Pier 3B	36+85.85	0.00	448.34	448.34
⊙ Pier 3B	36+86.76	0.00	448.33	448.33

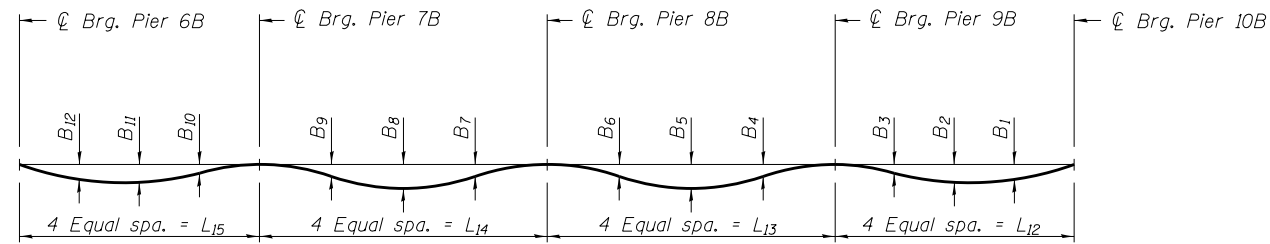
GIRDER 15

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊙ Pier 6B	33+57.12	0.58	450.58	450.58
⊙ Brg. Pier 6B	33+58.28	0.60	450.58	450.58
6A	33+68.28	0.80	450.65	450.68
6B	33+78.28	1.00	450.73	450.78
6C	33+88.28	1.18	450.80	450.86
6D	33+98.28	1.36	450.86	450.94
6E	34+08.28	1.53	450.93	451.01
6F	34+18.28	1.68	451.00	451.07
6G	34+28.28	1.83	451.02	451.07
6H	34+38.28	1.96	451.02	451.05
6I	34+48.28	2.09	451.01	451.02
6J	34+58.28	2.21	451.01	451.02
⊙ Brg. Pier 5B	34+64.16	2.27	451.01	451.01
5A	34+74.16	2.38	451.01	451.01
5B	34+84.17	2.47	450.95	450.96
5C	34+94.17	2.55	450.83	450.86
5D	35+04.17	2.63	450.72	450.77
5E	35+14.17	2.69	450.60	450.66
5F	35+24.18	2.74	450.49	450.56
5G	35+34.18	2.79	450.37	450.43
5H	35+44.18	2.82	450.21	450.27
5I	35+54.18	2.85	450.05	450.10
5J	35+64.19	2.86	449.90	449.93
5K	35+74.19	2.87	449.75	449.77
5L	35+84.19	2.87	449.60	449.60
⊙ Brg. Pier 4B	35+92.48	2.86	449.47	449.47
4A	36+02.48	2.83	449.35	449.36
4B	36+12.48	2.80	449.24	449.25
4C	36+22.48	2.76	449.13	449.15
4D	36+32.49	2.71	449.01	449.04
4E	36+42.49	2.65	448.90	448.93
4F	36+52.49	2.58	448.77	448.80
4G	36+62.49	2.51	448.62	448.65
4H	36+72.50	2.42	448.48	448.51
4I	36+82.50	2.32	448.35	448.36
⊙ Brg. Pier 3B	36+89.26	2.25	448.25	448.25
⊙ Pier 3B	36+90.16	2.24	448.23	448.23

GIRDER 16

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
⊙ Pier 6B	33+51.53	8.51	450.97	450.97
⊙ Brg. Pier 6B	33+52.69	8.53	450.96	450.96
6A	33+62.69	8.70	450.88	450.92
6B	33+72.70	8.85	450.96	451.03
6C	33+82.71	8.99	451.01	451.10
6D	33+92.72	9.13	451.05	451.15
6E	34+02.72	9.25	451.09	451.20
6F	34+12.73	9.36	451.14	451.24
6G	34+22.74	9.47	451.18	451.26
6H	34+32.75	9.56	451.17	451.23
6I	34+42.76	9.65	451.16	451.20
6J	34+52.77	9.72	451.13	451.15
⊙ Brg. Pier 5B	34+65.67	9.81	451.13	451.13
5A	34+75.68	9.86	451.10	451.11
5B	34+85.69	9.90	451.00	451.02
5C	34+95.70	9.94	450.86	450.89
5D	35+05.71	9.96	450.72	450.77
5E	35+15.72	9.98	450.57	450.64
5F	35+25.73	9.98	450.43	450.51
5G	35+35.74	9.98	450.27	450.35
5H	35+45.75	9.96	450.10	450.18
5I	35+55.76	9.94	449.94	450.00
5J	35+65.77	9.91	449.78	449.83
5K	35+75.78	9.86	449.62	449.65
5L	35+85.79	9.81	449.45	449.46
⊙ Brg. Pier 4B	35+99.47	9.72	449.25	449.25
4A	36+09.48	9.65	449.14	449.14
4B	36+19.48	9.56	449.02	449.03
4C	36+29.49	9.47	448.90	448.92
4D	36+39.50	9.37	448.79	448.82
4E	36+49.51	9.25	448.67	448.71
4F	36+59.52	9.13	448.52	448.56
4G	36+69.53	9.00	448.38	448.42
4H	36+79.53	8.85	448.25	448.28
4I	36+89.54	8.70	448.11	448.13
⊙ Brg. Pier 3B	36+98.84	8.55	447.98	447.98
⊙ Pier 3B	36+99.73	8.54	447.96	447.96

Notes:
 Stationing and Theoretical Grade Elevations based off of ⊙ MLK Connector.
 All offsets based off of ⊙ MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.

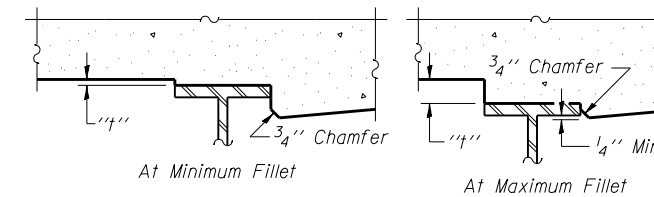


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 24 and 25 of 143.

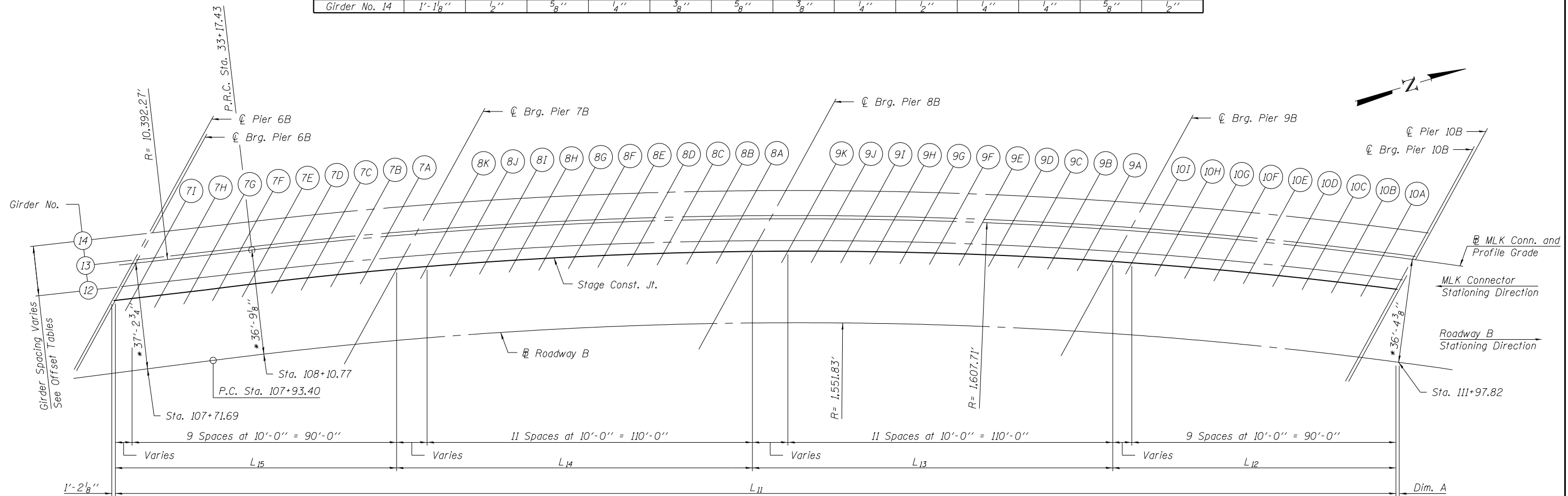


To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 24 and 25 of 143, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

TABLE OF VARIABLE DIMENSIONS

Location	Dim. A	B ₁	B ₂	B ₃	B ₄	B ₅	B ₆	B ₇	B ₈	B ₉	B ₁₀	B ₁₁	B ₁₂
Stage Const. Jt.	1'-1 ⁵ / ₁₆ "	---	---	---	---	---	---	---	---	---	---	---	---
Girder No. 12	1'-1 ¹ / ₄ "	1/2"	1/2"	1/4"	3/8"	5/8"	3/8"	1/4"	1/2"	1/4"	1/4"	5/8"	1/2"
Profile Grade	1'-1 ³ / ₁₆ "	1/2"	5/8"	1/4"	3/8"	5/8"	3/8"	1/4"	1/2"	1/4"	1/4"	5/8"	1/2"
Girder No. 13	1'-1 ¹ / ₄ "	1/2"	5/8"	1/4"	3/8"	5/8"	3/8"	1/4"	1/2"	1/4"	1/4"	5/8"	1/2"
Girder No. 14	1'-1 ⁵ / ₈ "	1/2"	5/8"	1/4"	3/8"	5/8"	3/8"	1/4"	1/2"	1/4"	1/4"	5/8"	1/2"



*Measured perpendicular to MLK Connector

PLAN

Notes:
Horizontal dimensions shown are measured along centerline of Girder, Stage Construction Joint, or Profile Grade.
For Table of "L" Dimensions and Girder Offset Tables, see sheet 72 of 143.

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 10B	29+24.91	-11.83	437.31	437.31
☉ Brg. Pier 10B	29+26.03	-11.83	437.35	437.35
10A	29+36.10	-11.84	437.66	437.66
10B	29+46.18	-11.84	438.00	438.00
10C	29+56.25	-11.85	438.36	438.36
10D	29+66.32	-11.86	438.72	438.72
10E	29+76.40	-11.86	439.07	439.07
10F	29+86.47	-11.87	439.42	439.42
10G	29+96.55	-11.88	439.76	439.76
10H	30+06.62	-11.89	440.12	440.12
10I	30+16.70	-11.90	440.50	440.50
☉ Brg. Pier 9B	30+23.48	-11.91	440.74	440.74
9A	30+33.55	-11.92	441.11	441.11
9B	30+43.63	-11.93	441.47	441.47
9C	30+53.70	-11.95	441.82	441.82
9D	30+63.78	-11.96	442.18	442.18
9E	30+73.85	-11.98	442.54	442.54
9F	30+83.93	-11.99	442.89	442.89
9G	30+94.00	-12.01	443.24	443.24
9H	31+04.08	-12.03	443.57	443.57
9I	31+14.15	-12.05	443.91	443.91
9J	31+24.23	-12.07	444.25	444.25
9K	31+34.30	-12.09	444.60	444.60
☉ Brg. Pier 8B	31+46.91	-12.11	445.03	445.03
8A	31+56.99	-12.14	445.37	445.37
8B	31+67.06	-12.16	445.71	445.71
8C	31+77.14	-12.18	446.04	446.04
8D	31+87.22	-12.21	446.36	446.36
8E	31+97.29	-12.23	446.65	446.65
8F	32+07.37	-12.26	446.94	446.94
8G	32+17.45	-12.28	447.24	447.24
8H	32+27.52	-12.31	447.52	447.52
8I	32+37.60	-12.34	447.81	447.81
8J	32+47.68	-12.37	448.05	448.05
8K	32+57.75	-12.40	448.27	448.27
☉ Brg. Pier 7B	32+68.93	-12.43	448.50	448.50
7A	32+79.01	-12.47	448.71	448.71
7B	32+89.09	-12.50	448.92	448.92
7C	32+99.17	-12.53	449.12	449.12
7D	33+09.25	-12.57	449.32	449.32
7E	33+19.31	-12.60	449.51	449.51
7F	33+29.29	-12.69	449.67	449.67
7G	33+39.28	-12.78	449.81	449.81
7H	33+49.27	-12.81	449.95	449.95
7I	33+59.26	-12.85	450.08	450.08
☉ Brg. Pier 6B	33+65.42	-12.88	450.14	450.14
☉ Pier 6B	33+66.59	-12.88	450.16	450.16

GIRDER 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 10B	29+23.59	-8.46	437.52	437.52
☉ Brg. Pier 10B	29+24.70	-8.46	437.55	437.55
10A	29+34.76	-8.46	437.86	437.88
10B	29+44.82	-8.46	438.19	438.22
10C	29+54.87	-8.46	438.55	438.59
10D	29+64.92	-8.46	438.91	438.96
10E	29+74.97	-8.46	439.27	439.31
10F	29+85.03	-8.46	439.62	439.65
10G	29+95.08	-8.46	439.96	439.98
10H	30+05.13	-8.46	440.32	440.33
10I	30+15.19	-8.46	440.70	440.70
☉ Brg. Pier 9B	30+21.87	-8.46	440.95	440.95
9A	30+31.92	-8.46	441.32	441.32
9B	30+41.98	-8.46	441.69	441.70
9C	30+52.03	-8.46	442.04	442.07
9D	30+62.08	-8.46	442.40	442.43
9E	30+72.14	-8.46	442.76	442.80
9F	30+82.19	-8.46	443.11	443.16
9G	30+92.24	-8.46	443.46	443.51
9H	31+02.29	-8.46	443.80	443.84
9I	31+12.35	-8.46	444.13	444.16
9J	31+22.40	-8.46	444.48	444.49
9K	31+32.45	-8.46	444.83	444.83
☉ Brg. Pier 8B	31+44.86	-8.46	445.25	445.25
8A	31+54.91	-8.46	445.60	445.60
8B	31+64.96	-8.46	445.93	445.94
8C	31+75.02	-8.46	446.27	446.29
8D	31+85.07	-8.46	446.59	446.63
8E	31+95.12	-8.46	446.89	446.93
8F	32+05.18	-8.46	447.17	447.22
8G	32+15.23	-8.46	447.46	447.50
8H	32+25.28	-8.46	447.73	447.77
8I	32+35.33	-8.46	448.02	448.04
8J	32+45.39	-8.46	448.27	448.28
8K	32+55.44	-8.46	448.49	448.50
☉ Brg. Pier 7B	32+66.27	-8.46	448.72	448.72
7A	32+76.32	-8.46	448.92	448.93
7B	32+86.38	-8.46	449.13	449.15
7C	32+96.43	-8.46	449.34	449.37
7D	33+06.48	-8.46	449.54	449.58
7E	33+16.54	-8.46	449.73	449.78
7F	33+26.53	-8.46	449.90	449.95
7G	33+36.53	-8.48	450.03	450.07
7H	33+46.54	-8.50	450.13	450.16
7I	33+56.51	-8.53	450.22	450.23
☉ Brg. Pier 6B	33+62.38	-8.56	450.27	450.27
☉ Pier 6B	33+63.55	-8.56	450.28	450.28

PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 10B	29+20.29	0.00	438.05	438.05
☉ Brg. Pier 10B	29+21.39	0.00	438.08	438.08
10A	29+31.39	0.00	438.37	438.39
10B	29+41.39	0.00	438.67	438.71
10C	29+51.39	0.00	439.02	439.07
10D	29+61.39	0.00	439.39	439.44
10E	29+71.39	0.00	439.75	439.80
10F	29+81.39	0.00	440.11	440.15
10G	29+91.39	0.00	440.45	440.47
10H	30+01.39	0.00	440.80	440.81
10I	30+11.39	0.00	441.19	441.20
☉ Brg. Pier 9B	30+17.97	0.00	441.45	441.45
9A	30+27.97	0.00	441.83	441.84
9B	30+37.97	0.00	442.21	442.23
9C	30+47.97	0.00	442.58	442.60
9D	30+57.97	0.00	442.93	442.97
9E	30+67.97	0.00	443.29	443.34
9F	30+77.97	0.00	443.64	443.69
9G	30+87.97	0.00	443.99	444.04
9H	30+97.97	0.00	444.33	444.37
9I	31+07.97	0.00	444.66	444.69
9J	31+17.97	0.00	445.00	445.02
9K	31+27.97	0.00	445.35	445.36
☉ Brg. Pier 8B	31+40.15	0.00	445.77	445.77
8A	31+50.15	0.00	446.11	446.12
8B	31+60.15	0.00	446.45	446.46
8C	31+70.15	0.00	446.78	446.81
8D	31+80.15	0.00	447.11	447.15
8E	31+90.15	0.00	447.42	447.47
8F	32+00.15	0.00	447.69	447.74
8G	32+10.15	0.00	447.95	448.00
8H	32+20.15	0.00	448.22	448.26
8I	32+30.15	0.00	448.45	448.48
8J	32+40.15	0.00	448.75	448.77
8K	32+50.15	0.00	448.95	448.96
☉ Brg. Pier 7B	32+60.67	0.00	449.19	449.19
7A	32+70.67	0.00	449.39	449.40
7B	32+80.67	0.00	449.57	449.59
7C	32+90.67	0.00	449.79	449.82
7D	33+00.67	0.00	449.99	450.04
7E	33+10.67	0.00	450.19	450.24
7F	33+20.67	0.00	450.38	450.43
7G	33+30.67	0.00	450.50	450.55
7H	33+40.67	0.00	450.55	450.58
7I	33+50.67	0.00	450.58	450.59
☉ Brg. Pier 6B	33+56.36	0.00	450.56	450.56
☉ Pier 6B	33+57.53	0.00	450.56	450.56

Notes:
 Stationing and Theoretical Grade Elevations based off of ☉ MLK Connector.
 All offsets based off of ☉ MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.

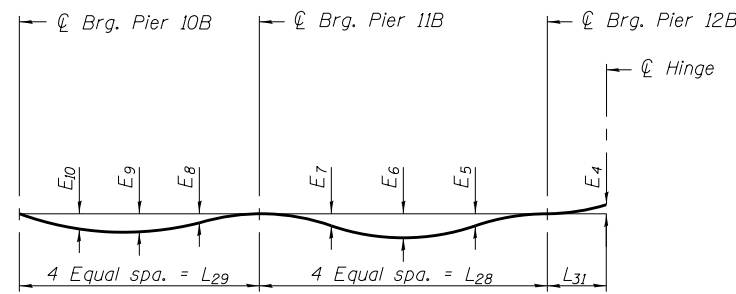
GIRDER 13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓞ Pier 10B	29+20.28	0.04	438.05	438.05
Ⓞ Brg. Pier 10B	29+21.38	0.04	438.08	438.08
10A	29+31.39	0.04	438.37	438.39
10B	29+41.39	0.04	438.67	438.71
10C	29+51.39	0.04	439.02	439.07
10D	29+61.39	0.04	439.39	439.44
10E	29+71.39	0.04	439.75	439.80
10F	29+81.39	0.04	440.11	440.15
10G	29+91.39	0.04	440.45	440.48
10H	30+01.39	0.04	440.80	440.81
10I	30+11.39	0.04	441.20	441.20
Ⓞ Brg. Pier 9B	30+17.95	0.04	441.45	441.45
9A	30+27.95	0.04	441.84	441.84
9B	30+37.95	0.04	442.22	442.23
9C	30+47.95	0.04	442.58	442.61
9D	30+57.95	0.04	442.93	442.97
9E	30+67.95	0.04	443.29	443.34
9F	30+77.95	0.04	443.64	443.69
9G	30+87.95	0.04	443.99	444.04
9H	30+97.95	0.04	444.33	444.38
9I	31+07.95	0.04	444.67	444.70
9J	31+17.95	0.04	445.00	445.02
9K	31+27.95	0.04	445.35	445.36
Ⓞ Brg. Pier 8B	31+40.13	0.04	445.77	445.77
8A	31+50.12	0.04	446.12	446.12
8B	31+60.12	0.04	446.45	446.46
8C	31+70.12	0.04	446.79	446.81
8D	31+80.12	0.04	447.12	447.15
8E	31+90.12	0.04	447.43	447.47
8F	32+00.12	0.04	447.70	447.74
8G	32+10.12	0.04	447.96	448.00
8H	32+20.12	0.04	448.23	448.26
8I	32+30.12	0.04	448.46	448.48
8J	32+40.12	0.04	448.76	448.77
8K	32+50.12	0.04	448.96	448.96
Ⓞ Brg. Pier 7B	32+60.64	0.04	449.20	449.20
7A	32+70.64	0.04	449.39	449.40
7B	32+80.64	0.04	449.58	449.59
7C	32+90.64	0.04	449.80	449.83
7D	33+00.64	0.04	450.00	450.04
7E	33+10.64	0.04	450.19	450.24
7F	33+20.64	0.04	450.38	450.43
7G	33+30.64	0.03	450.51	450.55
7H	33+40.64	0.02	450.55	450.58
7I	33+50.64	-0.01	450.58	450.59
Ⓞ Brg. Pier 6B	33+56.38	-0.03	450.56	450.56
Ⓞ Pier 6B	33+57.56	-0.04	450.56	450.56

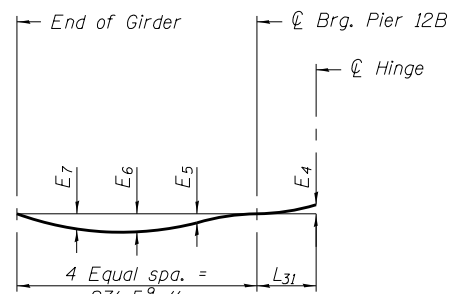
GIRDER 14

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Ⓞ Pier 10B	29+17.00	8.54	438.59	438.59
Ⓞ Brg. Pier 10B	29+18.09	8.54	438.62	438.62
10A	29+28.06	8.54	438.90	438.92
10B	29+38.01	8.54	439.17	439.21
10C	29+47.95	8.54	439.50	439.55
10D	29+57.90	8.54	439.87	439.92
10E	29+67.85	8.54	440.24	440.28
10F	29+77.80	8.54	440.60	440.64
10G	29+87.74	8.54	440.94	440.97
10H	29+97.69	8.54	441.28	441.29
10I	30+07.64	8.54	441.68	441.68
Ⓞ Brg. Pier 9B	30+14.07	8.54	441.95	441.95
9A	30+24.02	8.54	442.34	442.35
9B	30+33.96	8.54	442.73	442.75
9C	30+43.91	8.54	443.11	443.14
9D	30+53.86	8.54	443.47	443.51
9E	30+63.81	8.54	443.82	443.87
9F	30+73.75	8.54	444.17	444.23
9G	30+83.70	8.54	444.52	444.57
9H	30+93.65	8.54	444.87	444.91
9I	31+03.59	8.54	445.20	445.23
9J	31+13.54	8.54	445.53	445.55
9K	31+23.49	8.54	445.88	445.88
Ⓞ Brg. Pier 8B	31+35.45	8.54	446.29	446.29
8A	31+45.40	8.54	446.63	446.64
8B	31+55.34	8.54	446.97	446.98
8C	31+65.29	8.54	447.30	447.33
8D	31+75.24	8.54	447.64	447.67
8E	31+85.19	8.54	447.95	448.00
8F	31+95.13	8.54	448.24	448.28
8G	32+05.08	8.54	448.48	448.53
8H	32+15.03	8.54	448.73	448.76
8I	32+24.97	8.54	448.95	448.98
8J	32+34.92	8.54	449.20	449.21
8K	32+44.87	8.54	449.44	449.44
Ⓞ Brg. Pier 7B	32+55.08	8.54	449.65	449.65
7A	32+65.02	8.54	449.87	449.87
7B	32+74.97	8.54	450.05	450.06
7C	32+84.92	8.54	450.24	450.27
7D	32+94.87	8.54	450.45	450.50
7E	33+04.81	8.54	450.65	450.70
7F	33+14.76	8.54	450.85	450.90
7G	33+24.75	8.54	451.00	451.04
7H	33+34.75	8.50	451.04	451.07
7I	33+44.75	8.50	451.02	451.03
Ⓞ Brg. Pier 6B	33+50.37	8.49	450.99	450.99
Ⓞ Pier 6B	33+51.55	8.49	450.97	450.97

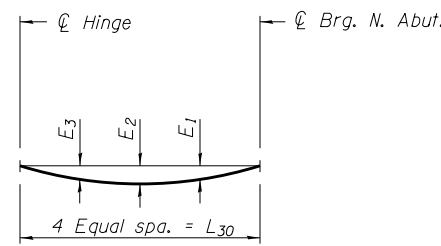
Notes:
 Stationing and Theoretical Grade Elevations based off of Ⓞ MLK Connector.
 All offsets based off of Ⓞ MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.



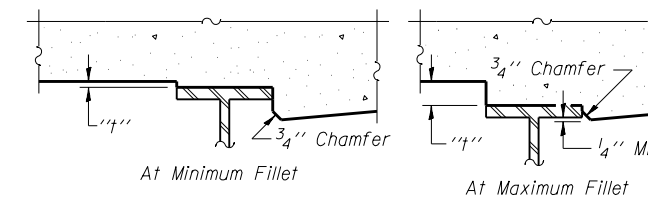
DEAD LOAD DEFLECTION DIAGRAM
GIRDERS NOS. 12, 13, 14 AND 15
 (Includes weight of concrete only.)



DEAD LOAD DEFLECTION DIAGRAM
GIRDER 12A
 (Includes weight of concrete only.)



DEAD LOAD DEFLECTION DIAGRAM
SUSPENDED SPAN
 (Includes weight of concrete only.)



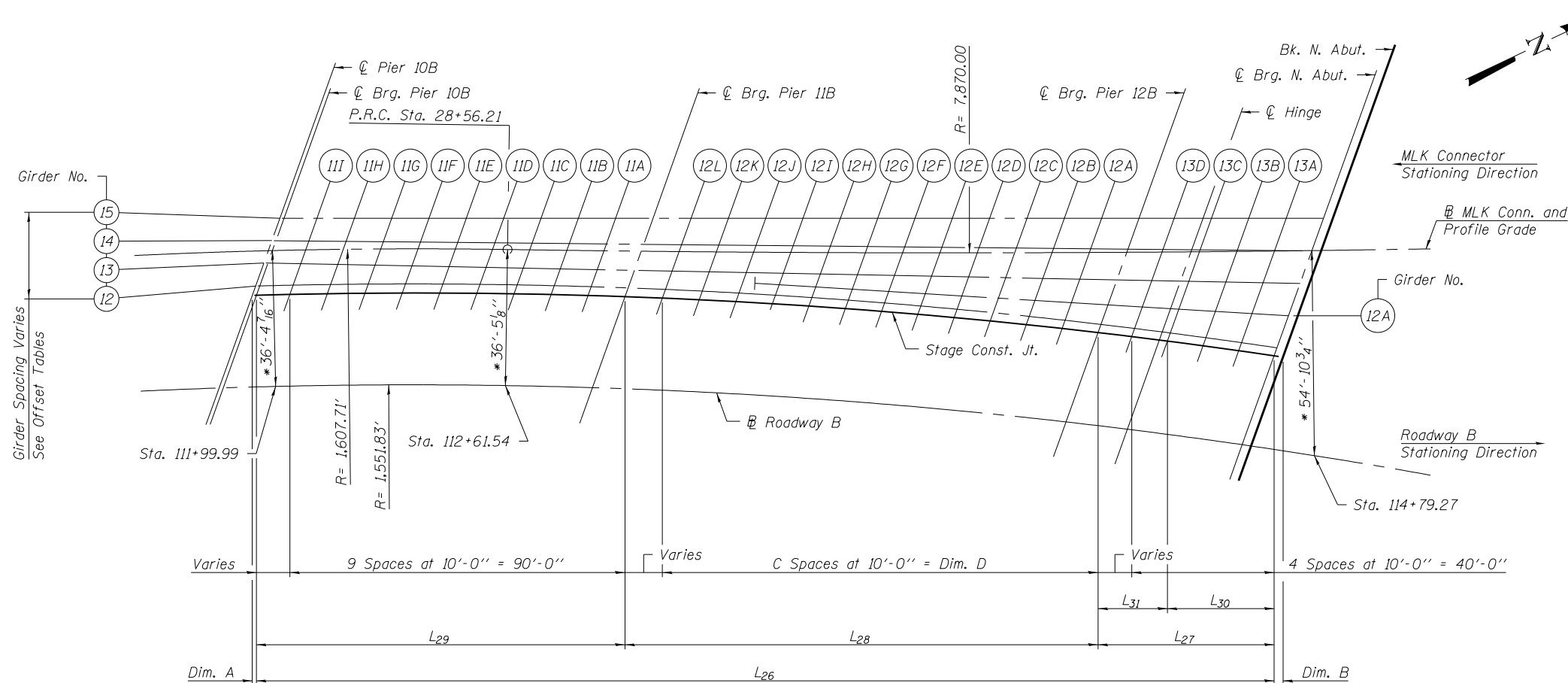
To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 27 thru 29 of 143, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

Note:
 The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 27 thru 29 of 143.

TABLE OF VARIABLE DIMENSIONS

Location	Dim. A	Dim. B	C	Dim. D	E ₁	E ₂	E ₃	E ₄	E ₅	E ₆	E ₇	E ₈	E ₉	E ₁₀
Stage Const. Jt.	1'-1 1/16"	2'-10 15/16"	12	120'-0"	---	---	---	---	---	---	---	---	---	---
Girder No. 12	1'-1 1/16"	2'-10 7/8"	12	120'-0"	1/8"	1/8"	1/8"	3/8"	3/4"	1"	5/8"	0"	1/4"	1/4"
Girder No. 12A	---	2'-11 1/16"	9	90'-0"	1/8"	1/8"	1/8"	3/8"	5/8"	1"	7/8"	---	---	---
Girder No. 13	1'-1 3/16"	3'-0 3/8"	12	120'-0"	1/8"	1/8"	1/8"	3/8"	3/4"	1"	5/8"	0"	1/4"	1/4"
Profile Grade	1'-1 3/8"	3'-0 3/16"	12	120'-0"	1/8"	1/8"	1/8"	3/8"	7/8"	1 1/8"	5/8"	0"	1/4"	1/4"
Girder No. 14	1'-1 1/4"	3'-0 1/2"	12	120'-0"	1/8"	1/8"	1/8"	3/8"	7/8"	1 1/8"	5/8"	0"	1/4"	1/4"
Girder No. 15	1'-1 1/4"	3'-0 5/8"	12	120'-0"	1/8"	1/8"	1/8"	3/8"	7/8"	1 1/8"	5/8"	0"	1/4"	1/4"



PLAN

* Measured perpendicular to MLK Connector

Notes:
 Horizontal dimensions shown are measured along Q Girder, Stage Construction Joint, or Profile Grade.
 For Table of "L" Dimensions and Girder Offset Table, see sheet 78 of 143.

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	26+48.64	-28.06	428.02	428.02
⊕ Brg. N. Abut.	26+51.04	-27.72	428.08	428.08
13A	26+60.91	-26.37	428.42	428.42
13B	26+70.79	-25.02	428.75	428.75
13C	26+80.67	-23.69	429.07	429.07
⊕ Hinge	26+82.31	-23.47	429.13	429.13
13D	26+90.55	-22.39	429.40	429.40
⊕ Brg. Pier 12B	26+98.12	-21.44	429.64	429.64
12A	27+08.03	-20.27	429.97	429.97
12B	27+17.94	-19.18	430.30	430.30
12C	27+27.87	-18.16	430.65	430.65
12D	27+37.80	-17.22	430.97	430.97
12E	27+47.74	-16.35	431.31	431.31
12F	27+57.69	-15.56	431.63	431.63
12G	27+67.64	-14.84	431.94	431.94
12H	27+77.60	-14.20	432.29	432.29
12I	27+87.57	-13.64	432.65	432.65
12J	27+97.54	-13.15	433.01	433.01
12K	28+07.52	-12.74	433.36	433.36
12L	28+17.50	-12.41	433.71	433.71
⊕ Brg. Pier 11B	28+24.60	-12.21	433.96	433.96
11A	28+34.58	-12.01	434.30	434.30
11B	28+44.57	-11.88	434.65	434.65
11C	28+54.55	-11.83	434.98	434.98
11D	28+64.61	-11.83	435.32	435.32
11E	28+74.69	-11.82	435.66	435.66
11F	28+84.76	-11.82	436.00	436.00
11G	28+94.83	-11.83	436.34	436.34
11H	29+04.91	-11.83	436.67	436.67
11I	29+14.98	-11.83	437.00	437.00
⊕ Brg. Pier 10B	29+23.78	-11.83	437.28	437.28
⊕ Pier 10B	29+24.91	-11.83	437.31	437.31

GIRDER 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	26+47.89	-26.06	428.07	428.07
⊕ Brg. N. Abut.	26+50.23	-25.72	428.13	428.13
13A	26+60.10	-24.32	428.46	428.46
13B	26+69.97	-22.93	428.79	428.78
13C	26+79.84	-21.55	429.11	429.09
⊕ Hinge	26+81.52	-21.31	429.17	429.14
13D	26+89.73	-20.23	429.44	429.43
⊕ Brg. Pier 12B	26+97.33	-19.27	429.69	429.69
12A	27+07.24	-18.08	430.02	430.04
12B	27+17.15	-16.98	430.36	430.40
12C	27+27.08	-15.94	430.71	430.77
12D	27+37.01	-14.99	431.05	431.13
12E	27+46.96	-14.11	431.40	431.48
12F	27+56.91	-13.30	431.73	431.81
12G	27+66.86	-12.57	432.06	432.14
12H	27+76.83	-11.92	432.42	432.49
12I	27+86.80	-11.34	432.79	432.84
12J	27+96.77	-10.84	433.15	433.19
12K	28+06.75	-10.41	433.51	433.53
12L	28+16.73	-10.06	433.87	433.87
⊕ Brg. Pier 11B	28+23.79	-9.86	434.11	434.11
11A	28+33.78	-9.64	434.46	434.45
11B	28+43.76	-9.50	434.81	434.81
11C	28+53.75	-9.43	435.15	435.15
11D	28+63.79	-9.42	435.48	435.50
11E	28+73.85	-9.41	435.83	435.84
11F	28+83.91	-9.41	436.16	436.18
11G	28+93.97	-9.39	436.50	436.52
11H	29+04.03	-9.38	436.83	436.85
11I	29+14.09	-9.37	437.16	437.16
⊕ Brg. Pier 10B	29+22.82	-9.37	437.43	437.43
⊕ Pier 10B	29+23.94	-9.37	437.46	437.46

GIRDER 12A

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	26+44.74	-17.57	428.29	428.29
⊕ Brg. N. Abut.	26+47.14	-17.40	428.35	428.35
13A	26+57.09	-16.68	428.62	428.62
13B	26+67.05	-15.98	428.92	428.91
13C	26+77.00	-15.29	429.22	429.20
⊕ Hinge	26+79.26	-15.13	429.29	429.26
13D	26+86.96	-14.61	429.53	429.52
⊕ Brg. Pier 12B	26+95.43	-14.04	429.80	429.80
12A	27+05.39	-13.38	430.12	430.15
12B	27+15.35	-12.74	430.46	430.50
12C	27+25.32	-12.11	430.81	430.87
12D	27+35.28	-11.49	431.16	431.23
12E	27+45.25	-10.89	431.50	431.59
12F	27+55.22	-10.29	431.85	431.93
12G	27+65.19	-9.71	432.19	432.27
12H	27+75.16	-9.15	432.55	432.62
12I	27+85.13	-8.59	432.92	432.98
End of Girder	27+92.58	-8.19	433.20	433.24

Notes:
 Stationing and Theoretical Grade Elevations based off of ⊕ MLK Connector.
 All offsets based off of ⊕ MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.

GIRDER 13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	26+40.96	-8.86	428.51	428.51
⊕ Brg. N. Abut.	26+43.93	-8.76	428.57	428.57
13A	26+53.92	-8.45	428.81	428.81
13B	26+63.90	-8.16	429.08	429.07
13C	26+73.89	-7.87	429.36	429.34
⊕ Hinge	26+76.57	-7.80	429.44	429.41
13D	26+83.87	-7.60	429.66	429.64
⊕ Brg. Pier 12B	26+92.99	-7.36	429.94	429.94
12A	27+02.98	-7.11	430.26	430.28
12B	27+12.97	-6.88	430.60	430.64
12C	27+22.96	-6.66	430.95	431.01
12D	27+32.95	-6.45	431.31	431.38
12E	27+42.94	-6.25	431.66	431.74
12F	27+52.93	-6.07	432.01	432.09
12G	27+62.92	-5.89	432.35	432.43
12H	27+72.91	-5.73	432.69	432.77
12I	27+82.90	-5.59	433.05	433.11
12J	27+92.89	-5.45	433.40	433.45
12K	28+02.89	-5.33	433.75	433.78
12L	28+12.88	-5.22	434.10	434.11
⊕ Brg. Pier 11B	28+22.16	-5.14	434.42	434.42
11A	28+32.15	-5.05	434.76	434.76
11B	28+42.15	-4.98	435.11	435.11
11C	28+52.14	-4.92	435.45	435.45
11D	28+62.15	-4.86	435.79	435.80
11E	28+72.18	-4.75	436.14	436.16
11F	28+82.21	-4.57	436.49	436.51
11G	28+92.24	-4.33	436.84	436.86
11H	29+02.26	-4.03	437.19	437.20
11I	29+12.28	-3.66	437.53	437.54
⊕ Brg. Pier 10B	29+20.46	-3.32	437.81	437.81
⊕ Pier 10B	29+21.56	-3.27	437.84	437.84

PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	26+37.66	0.00	428.73	428.73
⊕ Brg. N. Abut.	26+40.67	0.00	428.79	428.79
13A	26+50.67	0.00	429.02	429.02
13B	26+60.67	0.00	429.26	429.25
13C	26+70.67	0.00	429.52	429.49
⊕ Hinge	26+73.70	0.00	429.60	429.57
13D	26+80.67	0.00	429.80	429.78
⊕ Brg. Pier 12B	26+90.30	0.00	430.09	430.09
12A	27+00.30	0.00	430.41	430.43
12B	27+10.30	0.00	430.75	430.80
12C	27+20.30	0.00	431.11	431.18
12D	27+30.30	0.00	431.49	431.57
12E	27+40.30	0.00	431.86	431.95
12F	27+50.30	0.00	432.23	432.33
12G	27+60.30	0.00	432.60	432.69
12H	27+70.30	0.00	432.97	433.05
12I	27+80.30	0.00	433.33	433.40
12J	27+90.30	0.00	433.69	433.74
12K	28+00.30	0.00	434.05	434.08
12L	28+10.30	0.00	434.40	434.41
⊕ Brg. Pier 11B	28+20.38	0.00	434.75	434.75
11A	28+30.38	0.00	435.10	435.10
11B	28+40.38	0.00	435.44	435.44
11C	28+50.38	0.00	435.78	435.79
11D	28+60.38	0.00	436.12	436.13
11E	28+70.38	0.00	436.45	436.47
11F	28+80.38	0.00	436.78	436.81
11G	28+90.38	0.00	437.12	437.14
11H	29+00.38	0.00	437.44	437.46
11I	29+10.38	0.00	437.75	437.76
⊕ Brg. Pier 10B	29+19.17	0.00	438.02	438.02
⊕ Pier 10B	29+20.29	0.00	438.05	438.05

GIRDER 14

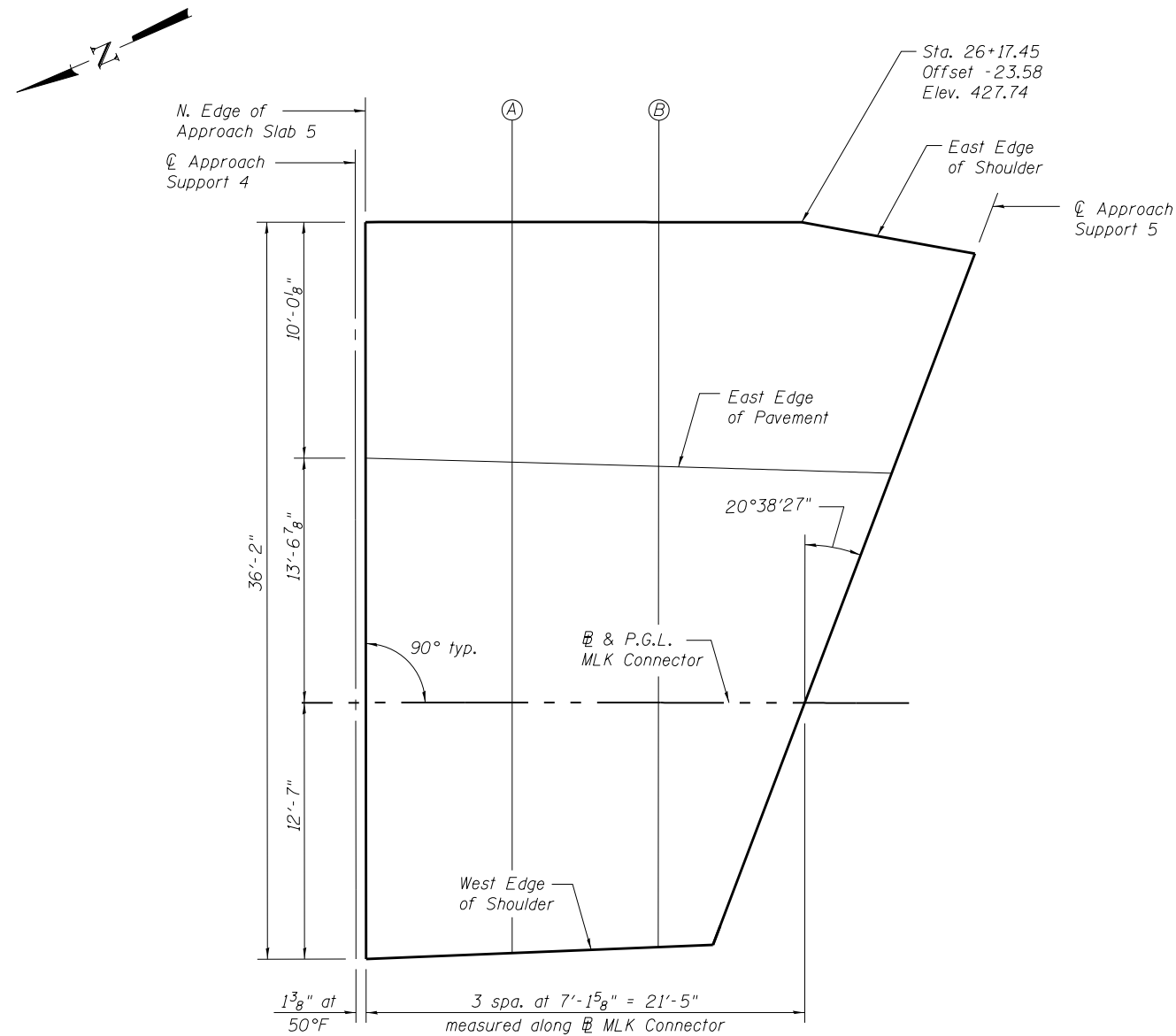
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	26+37.72	-0.17	428.73	428.73
⊕ Brg. N. Abut.	26+40.71	-0.10	428.79	428.79
13A	26+50.70	0.12	429.02	429.02
13B	26+60.70	0.32	429.27	429.26
13C	26+70.70	0.51	429.53	429.51
⊕ Hinge	26+73.49	0.56	429.61	429.58
13D	26+80.70	0.69	429.82	429.80
⊕ Brg. Pier 12B	26+90.00	0.84	430.10	430.10
12A	27+00.00	1.00	430.43	430.45
12B	27+10.00	1.14	430.78	430.82
12C	27+20.00	1.27	431.15	431.21
12D	27+30.00	1.38	431.53	431.61
12E	27+40.00	1.48	431.92	432.01
12F	27+50.00	1.57	432.31	432.40
12G	27+60.00	1.65	432.69	432.78
12H	27+70.00	1.72	433.07	433.15
12I	27+80.01	1.77	433.44	433.51
12J	27+90.01	1.81	433.81	433.86
12K	28+00.01	1.84	434.17	434.20
12L	28+10.01	1.85	434.53	434.54
⊕ Brg. Pier 11B	28+19.74	1.85	434.87	434.87
11A	28+29.75	1.84	435.22	435.22
11B	28+39.75	1.82	435.56	435.56
11C	28+49.75	1.78	435.90	435.91
11D	28+59.75	1.73	436.23	436.25
11E	28+69.74	1.74	436.57	436.59
11F	28+79.73	1.80	436.90	436.93
11G	28+89.71	1.93	437.25	437.27
11H	28+99.70	2.11	437.58	437.60
11I	29+09.68	2.37	437.91	437.92
⊕ Brg. Pier 10B	29+18.16	2.63	438.18	438.18
⊕ Pier 10B	29+19.26	2.66	438.22	438.22

Notes:
 Stationing and Theoretical Grade Elevations based off of ⊕ MLK Connector.
 All offsets based off of ⊕ MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.

GIRDER 15

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	26+34.45	8.57	428.93	428.93
⊕ Brg. N. Abut.	26+37.46	8.61	429.00	429.00
13A	26+47.47	8.73	429.24	429.24
13B	26+57.48	8.84	429.46	429.46
13C	26+67.49	8.94	429.71	429.68
⊕ Hinge	26+70.40	8.96	429.79	429.75
13D	26+77.50	9.02	429.98	429.96
⊕ Brg. Pier 12B	26+86.98	9.09	430.27	430.27
12A	26+96.99	9.15	430.60	430.62
12B	27+07.00	9.19	430.95	431.00
12C	27+17.01	9.22	431.33	431.40
12D	27+27.02	9.24	431.74	431.83
12E	27+37.04	9.25	432.16	432.26
12F	27+47.05	9.25	432.58	432.68
12G	27+57.06	9.23	433.00	433.10
12H	27+67.07	9.20	433.43	433.51
12I	27+77.08	9.15	433.82	433.89
12J	27+87.09	9.10	434.20	434.25
12K	27+97.11	9.03	434.58	434.61
12L	28+07.12	8.95	434.95	434.96
⊕ Brg. Pier 11B	28+17.32	8.85	435.32	435.32
11A	28+27.33	8.74	435.68	435.67
11B	28+37.34	8.62	436.02	436.02
11C	28+47.35	8.49	436.35	436.36
11D	28+57.35	8.35	436.68	436.70
11E	28+67.30	8.23	437.00	437.03
11F	28+77.25	8.18	437.32	437.35
11G	28+87.20	8.20	437.66	437.69
11H	28+97.15	8.27	437.98	438.00
11I	29+07.10	8.41	438.29	438.30
⊕ Brg. Pier 10B	29+15.88	8.58	438.56	438.56
⊕ Pier 10B	29+16.98	8.60	438.59	438.59

Notes:
 Stationing and Theoretical Grade Elevations based off of ⊕ MLK Connector.
 All offsets based off of ⊕ MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.



PLAN

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
☉ Approach Support 4	25+96.10	-23.58	427.78
N. Edge of Approach Slab 5	25+96.21	-23.58	427.79
A	26+03.35	-23.58	427.76
B	26+10.49	-23.58	427.75
☉ Approach Support 5	26+25.92	-22.07	427.93

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
☉ Approach Support 4	25+96.10	-13.58	427.90
N. Edge of Approach Slab 5	25+96.21	-13.58	427.90
A	26+03.35	-13.38	427.95
B	26+10.49	-13.19	428.01
☉ Approach Support 5	26+22.47	-12.88	428.13

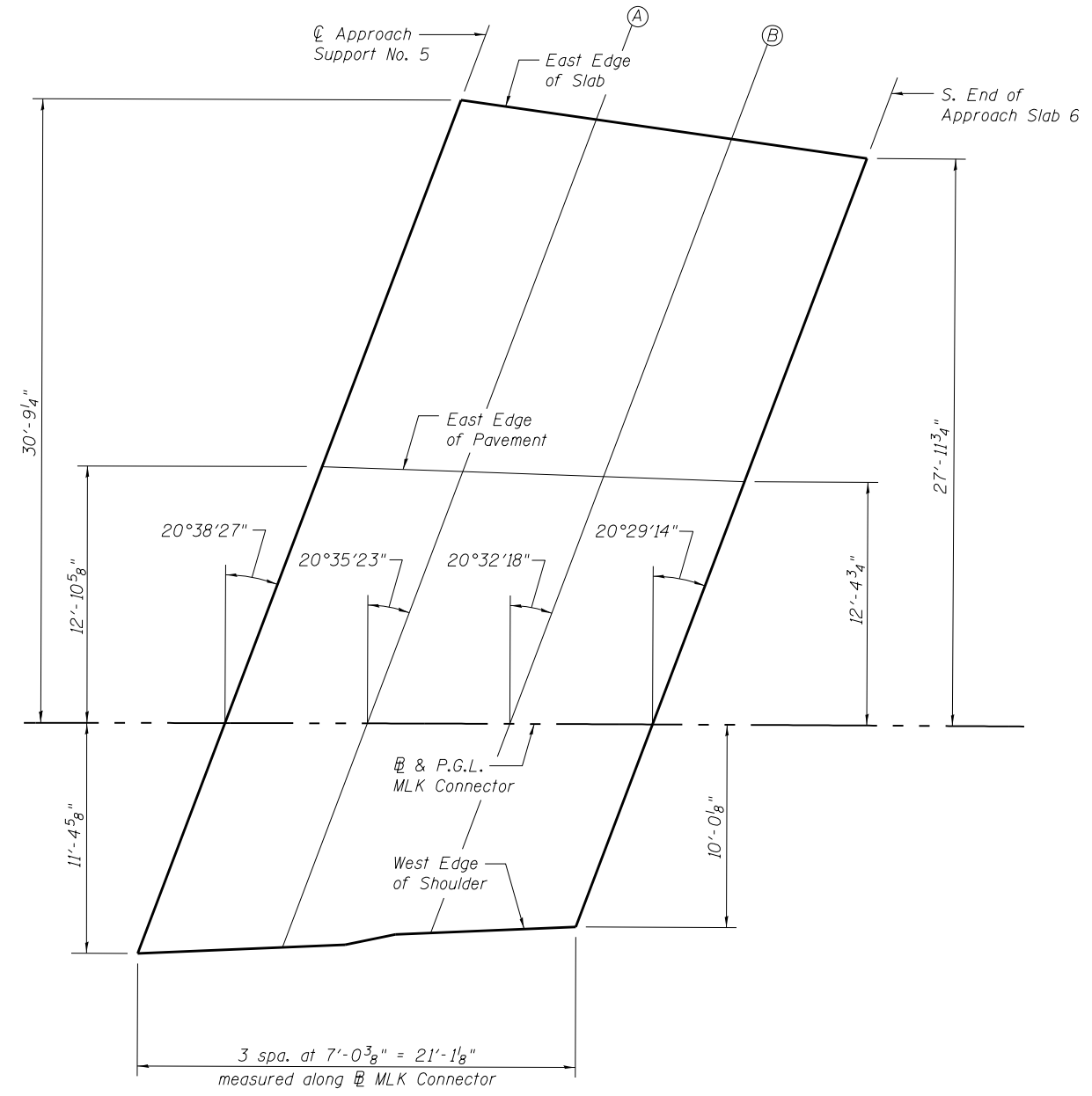
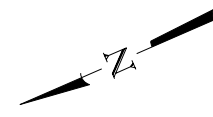
B & P.G.L. MLK CONNECTOR

Location	Station	Offset	Theoretical Grade Elevations
☉ Approach Support 4	25+96.10	0	428.06
N. Edge of Approach Slab 5	25+96.21	0	428.06
A	26+03.35	0	428.15
B	26+10.49	0	428.25
☉ Approach Support 5	26+17.63	0	428.36

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
☉ Approach Support 4	25+96.10	12.58	428.21
N. Edge of Approach Slab 5	25+96.21	12.58	428.21
A	26+03.35	12.29	428.34
B	26+10.49	11.99	428.48
☉ Approach Support 5	26+13.15	11.88	428.53

082000-76009-030-Top of Slab 55 Elevation



PLAN

EAST EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations
☉ Approach Support 5	26+29.18	- 30.78	427.39
A	26+35.83	- 29.84	427.61
B	26+42.48	- 28.91	427.85
S. End of Approach Slab 6	26+49.14	- 27.99	428.03

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
☉ Approach Support 5	26+22.47	- 12.88	428.13
A	26+29.43	- 12.71	428.22
B	26+36.39	- 12.55	428.32
S. End of Approach Slab 6	26+43.35	- 12.39	428.44

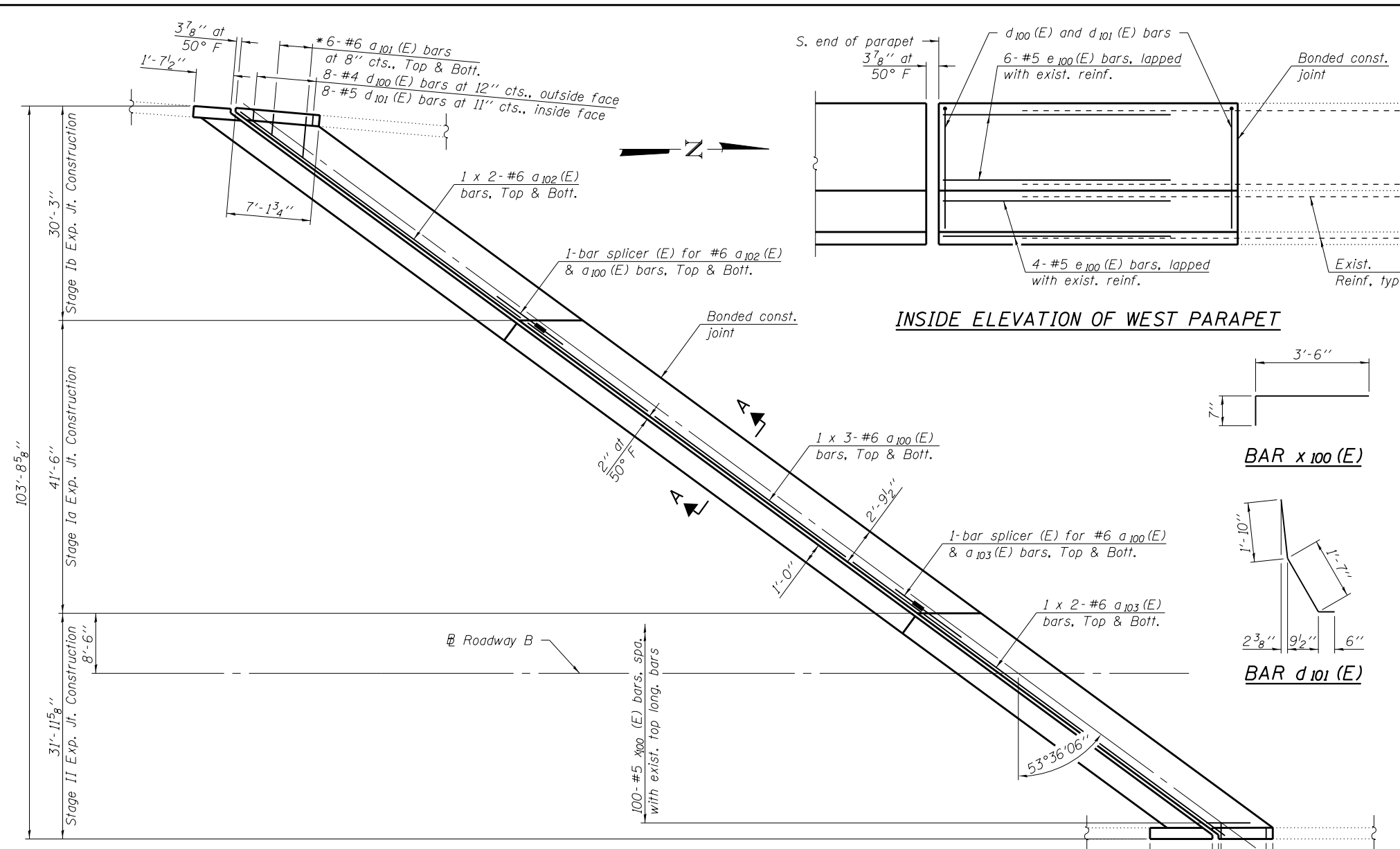
B & P.G.L. MLK CONNECTOR

Location	Station	Offset	Theoretical Grade Elevations
☉ Approach Support 5	26+17.63	0	428.36
A	26+24.66	0	428.48
B	26+31.69	0	428.61
S. End of Approach Slab 6	26+38.72	0	428.75

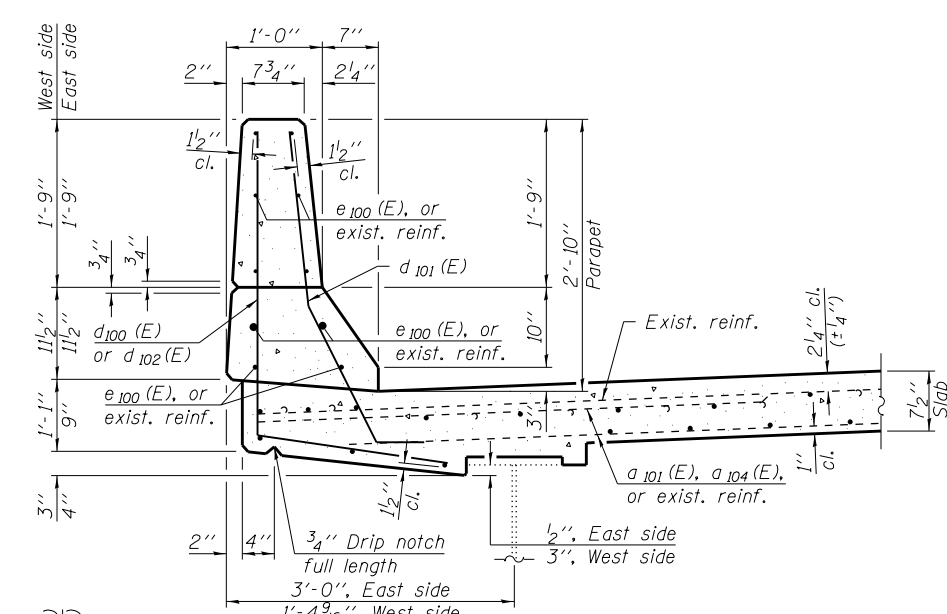
WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
☉ Approach Support 5	26+13.34	11.37	428.52
A	26+20.50	11.07	428.67
B	26+27.82	10.33	428.82
S. End of Approach Slab 6	26+34.98	10.01	428.98

08200076009-0317 Top of Slab 56 Elev.dgn



INSIDE ELEVATION OF WEST PARAPET



SECTION THRU PARAPET

BAR x100 (E)

BAR d101 (E)

BARS d100 (E) & d102 (E)

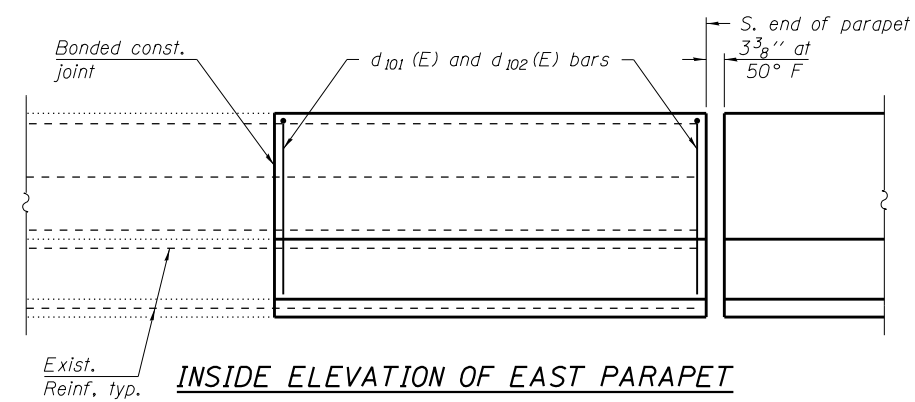
MINIMUM BAR LAP
 #5 bar = 2'-6"
 #6 bar = 3'-10"

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a100 (E)	6	#6	25'-10"	—
a101 (E)	6	#6	6'-5"	—
a102 (E)	4	#6	25'-11"	—
a103 (E)	4	#6	26'-1"	—
d100 (E)	8	#4	5'-3"	L
d101 (E)	12	#5	3'-11"	L
d102 (E)	4	#4	5'-2"	L
e100 (E)	10	#5	5'-3"	—
x100 (E)	100	#5	4'-1"	L
Concrete Removal			Cu. Yd.	35.1
Reinforcement Bars, Epoxy Coated			Pound	1,170
Concrete Superstructure			Cu. Yd.	27.8
Bar Splicers			Each	4

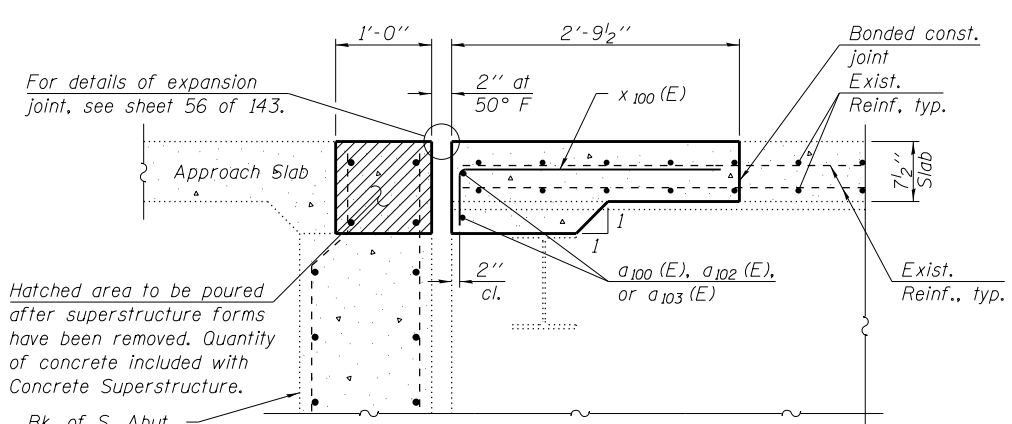
Bars indicated thus 1 x 3-#6 etc. indicates 1 line of bars with 3 lengths per line.

PART PLAN



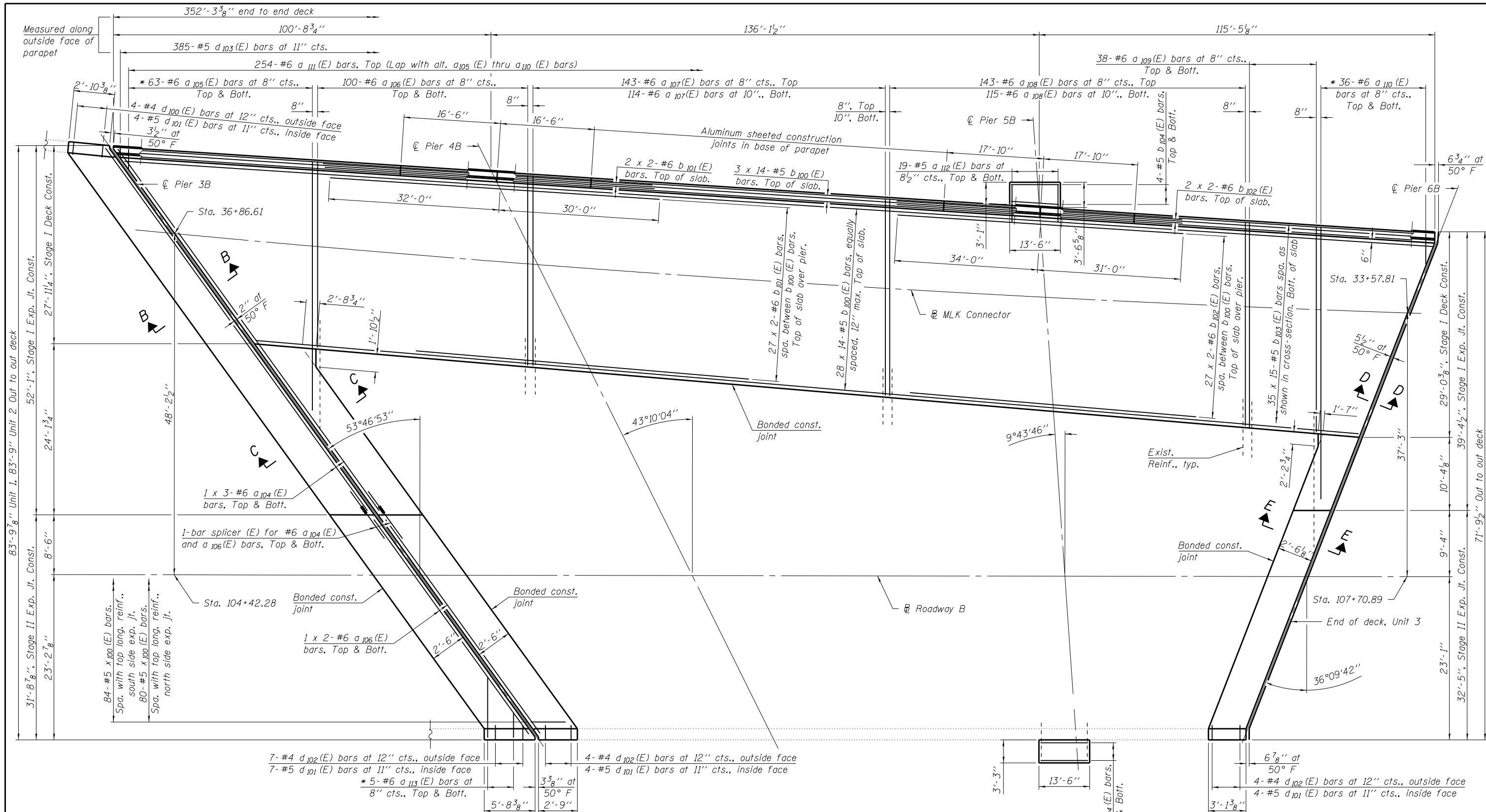
INSIDE ELEVATION OF EAST PARAPET

* Order bars full length. Cut to fit skew and use remainder of bars in bottom.



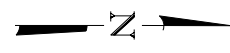
SECTION A-A
(Horiz. dim. at right L's)

Notes:
 Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on sheet 56 of 143.
 Vertical dimensions shown are perpendicular to Roadway B.
 Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included in Concrete Removal.
 Cut ends of existing reinforcement bars extending into new construction to maintain 1/2" minimum clearance.
 For details of Bar Splicers, see sheet 125 of 143.
 For Superstructure Concrete Removal details, see sheet 15 of 143.



PLAN

MINIMUM BAR LAP
 #5 bar = 3'-3"
 #6 bar = 3'-10"



Notes:
 Bars indicated thus 27 x 2-#6 etc. indicates 27 lines of bars with 2 lengths per line.
 Dimensions are based on Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on sheet 56 of 143.
 Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included in Concrete Removal.
 Cut ends of existing reinforcement bars extending into new construction to maintain 1/2" minimum clearance.

Notes:
 Lap a₁₀₆(E) thru a₁₀₉(E) bars with existing reinforcement.
 Vertical dimensions shown are perpendicular to Roadway B.
 For Superstructure details and Bill of Materials, see sheet 36 of 143.
 For parapet reinforcement, see sheet 35 of 143.
 For details of Bar Splicers, see sheet 125 of 143.
 For Superstructure Concrete Removal details, see sheet 15 of 143.
 For Sections B-B and C-C, see sheet 36 of 143.
 For Sections D-D and E-E, see sheet 41 of 143.

*Order bars full length. Cut to fit skew and use remainder of bars in bottom.

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USER NAME = elagemann	CHECKED - K.A. Klues	REVISED
PLOT SCALE =	DRAWN - T.S. Friederich	REVISED
PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann	REVISED

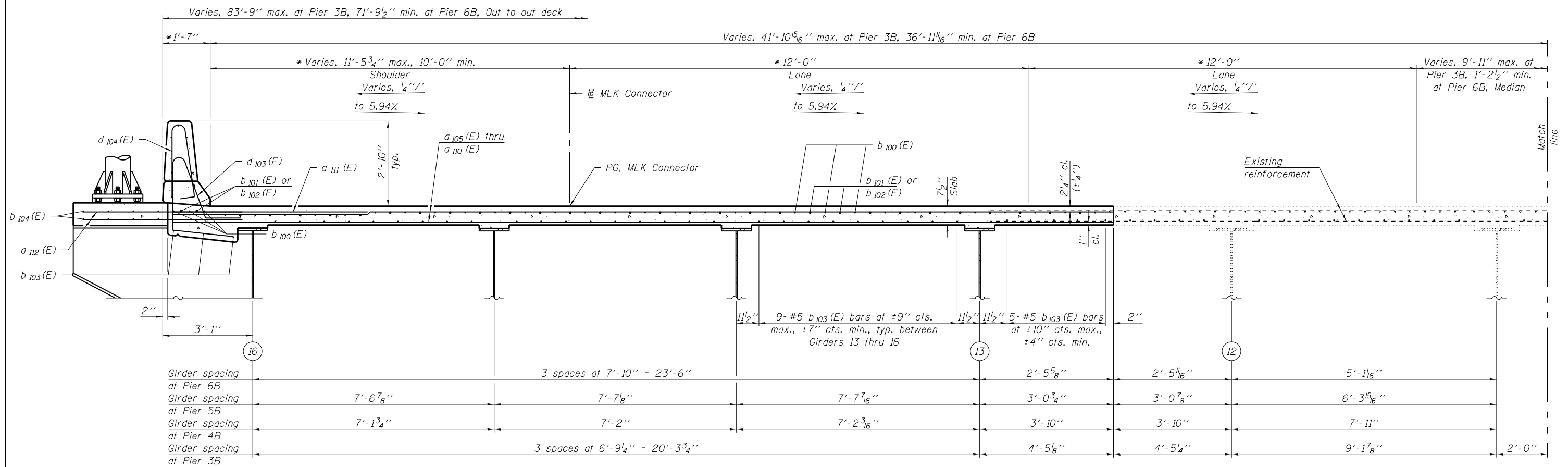
DESIGNED - T.S. Friederich	REVISED
CHECKED - K.A. Klues	REVISED
DRAWN - T.S. Friederich	REVISED
CHECKED - E.M. Lagemann	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

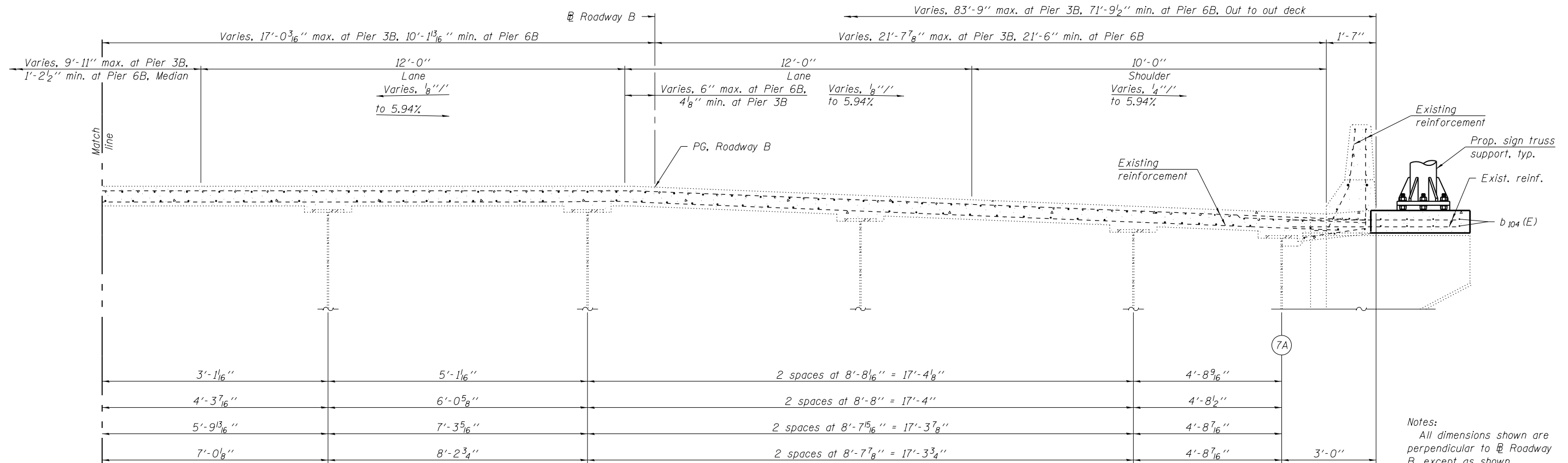
**SUPERSTRUCTURE DETAILS - UNIT 2
 STRUCTURE NO. 082-0010**

SHEET NO. 33 OF 143 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	82-(1,4)B-1	ST. CLAIR	406	225
CONTRACT NO. 76G09				
ILLINOIS FED. AID PROJECT				



PART CROSS-SECTION
(Looking North)

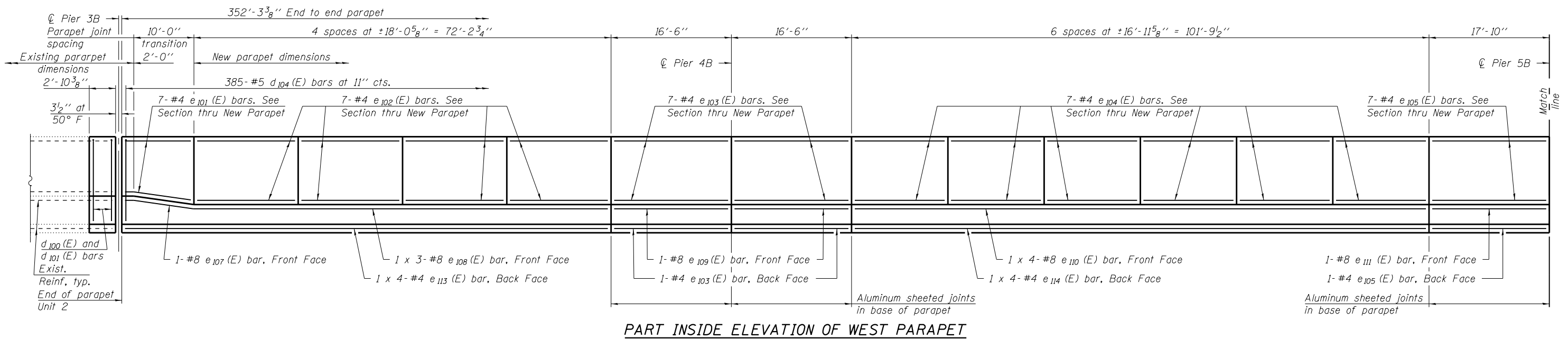


PART CROSS-SECTION
(Looking North)

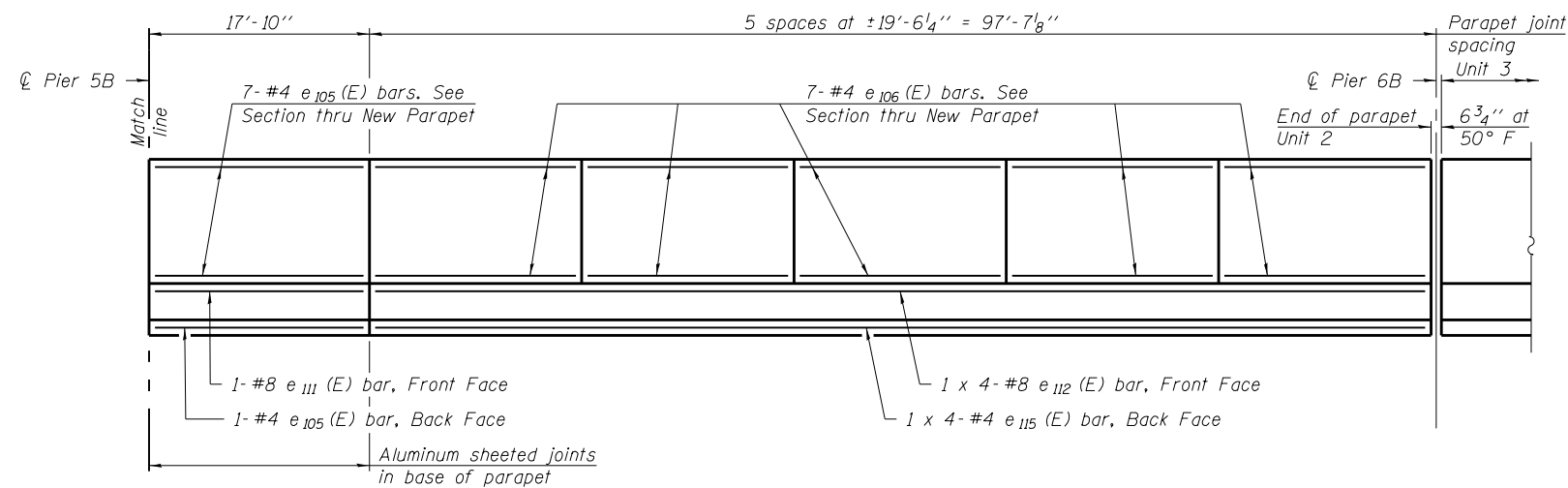
* Measured perpendicular to \perp MLK Connector.

Notes:
All dimensions shown are perpendicular to \perp Roadway B, except as shown.
See sign structure plans for sign truss support details.

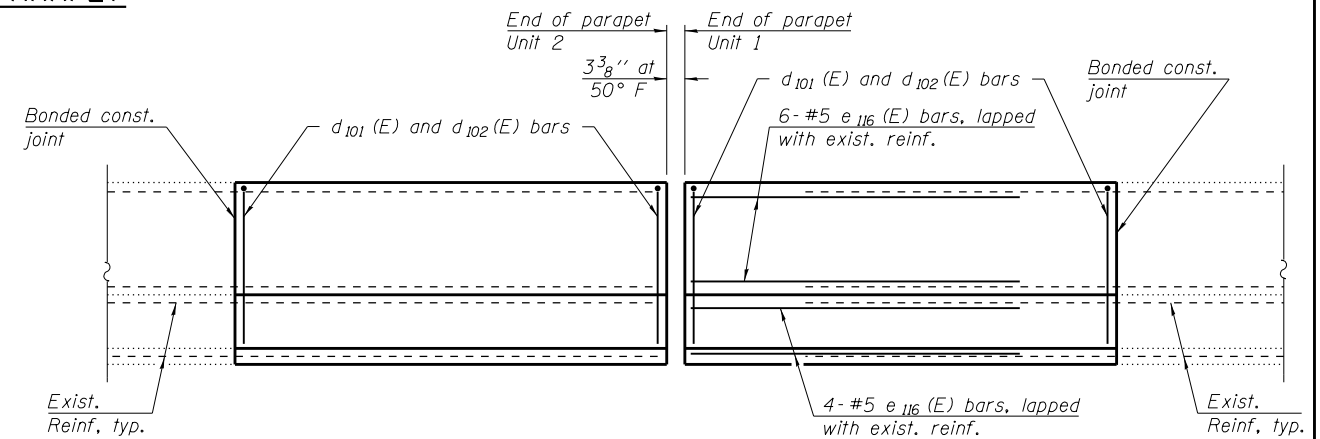
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	USER NAME = elagemann	CHECKED - K.A. Klues			REVISED	CONTRACT NO. 76C09			
	PLOT SCALE =	DRAWN - T.S. Friederich			REVISED	ILLINOIS FED. AID PROJECT			
	PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann			REVISED				



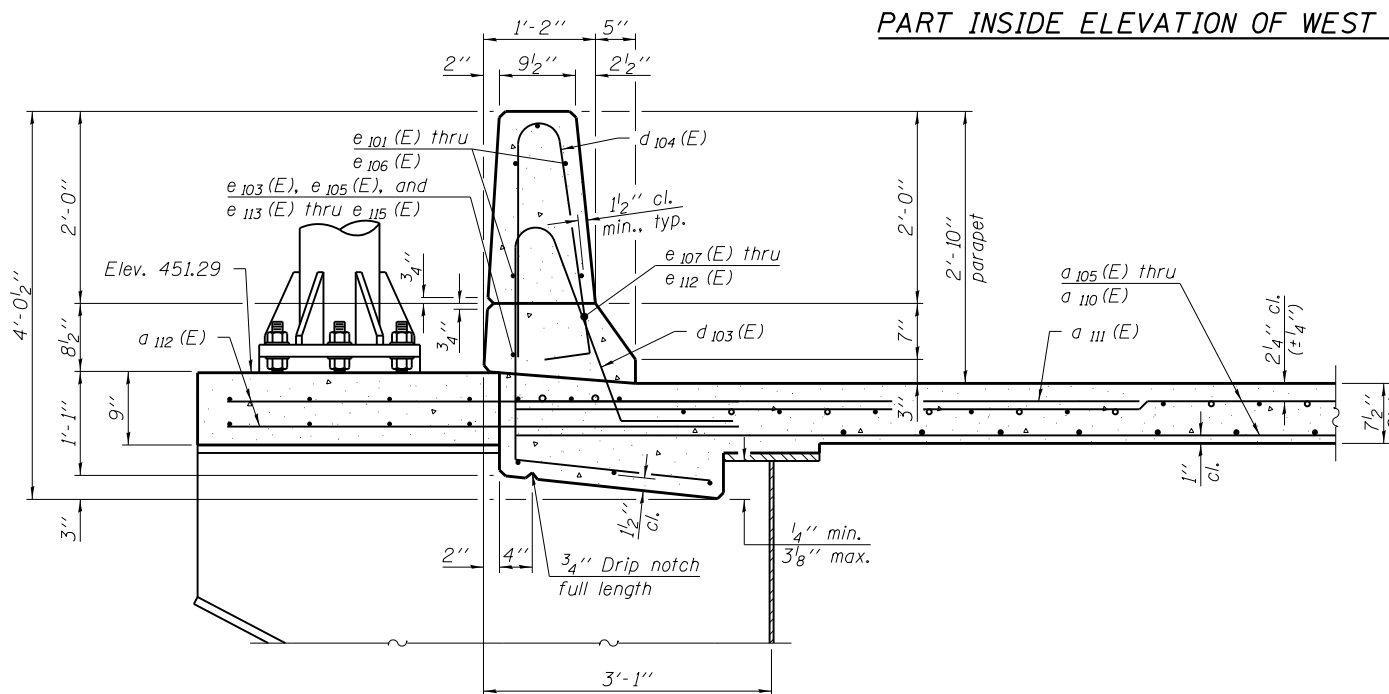
PART INSIDE ELEVATION OF WEST PARAPET



PART INSIDE ELEVATION OF WEST PARAPET

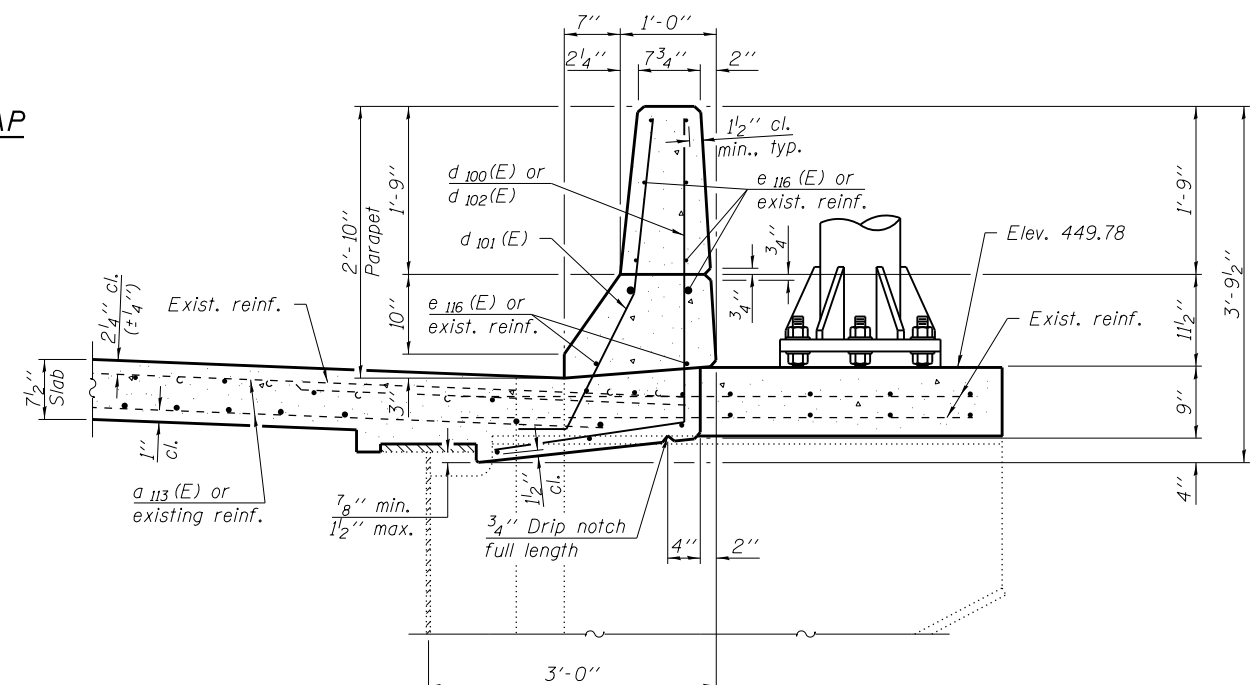


INSIDE ELEVATION OF EAST PARAPET - PIER 3B



SECTION THRU NEW PARAPET

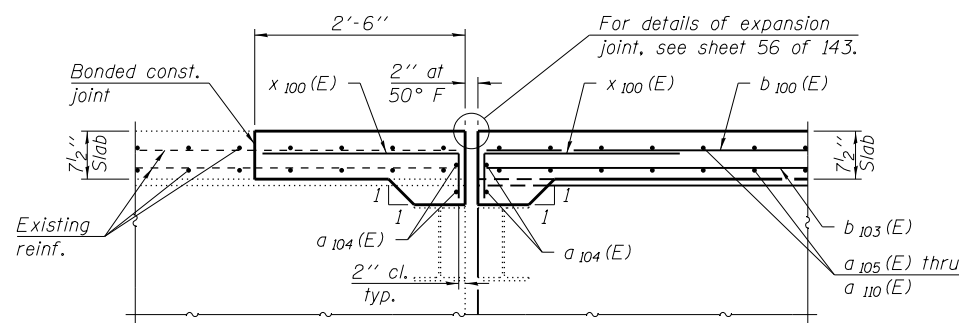
MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#5 bar = 2'-6"
#8 bar = 5'-2"



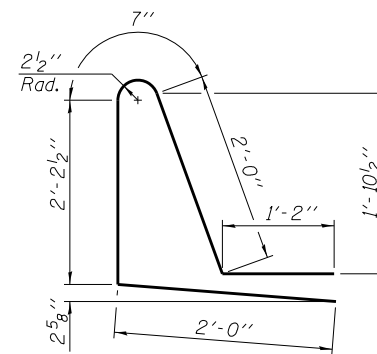
SECTION THRU EXISTING PARAPET

**SUPERSTRUCTURE
BILL OF MATERIAL**

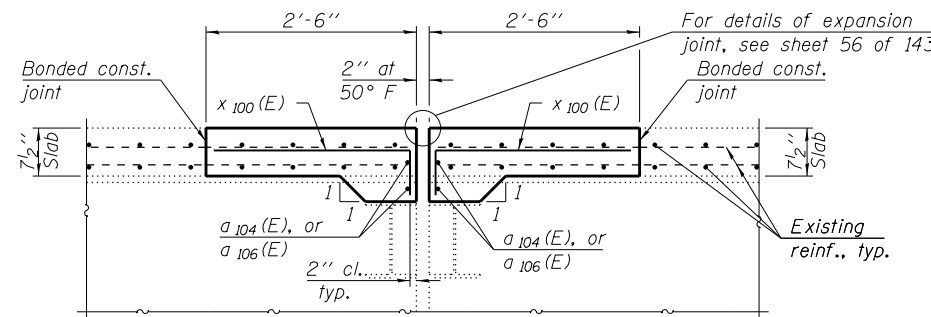
Bar	No.	Size	Length	Shape
a ₁₀₄ (E)	12	#6	30'-0"	—
a ₁₀₅ (E)	63	#6	33'-2"	—
a ₁₀₆ (E)	208	#6	26'-0"	—
a ₁₀₇ (E)	257	#6	26'-11"	—
a ₁₀₈ (E)	258	#6	27'-11"	—
a ₁₀₉ (E)	76	#6	28'-11"	—
a ₁₁₀ (E)	36	#6	37'-8"	—
a ₁₁₁ (E)	254	#6	6'-6"	—
a ₁₁₂ (E)	19	#5	7'-0"	—
a ₁₁₃ (E)	5	#6	5'-8"	—
b ₁₀₀ (E)	434	#5	28'-3"	—
b ₁₀₁ (E)	58	#6	32'-11"	—
b ₁₀₂ (E)	58	#6	34'-5"	—
b ₁₀₃ (E)	525	#5	26'-7"	—
b ₁₀₄ (E)	16	#5	13'-2"	—
d ₁₀₀ (E)	4	#4	5'-3"	L
d ₁₀₁ (E)	19	#5	3'-11"	L
d ₁₀₂ (E)	15	#4	5'-2"	L
d ₁₀₃ (E)	385	#5	8'-0"	L
d ₁₀₄ (E)	385	#5	5'-7"	L
e ₁₀₁ (E)	7	#4	11'-9"	—
e ₁₀₂ (E)	28	#4	17'-9"	—
e ₁₀₃ (E)	16	#4	16'-3"	—
e ₁₀₄ (E)	42	#4	16'-9"	—
e ₁₀₅ (E)	16	#4	17'-7"	—
e ₁₀₆ (E)	35	#4	19'-3"	—
e ₁₀₇ (E)	1	#8	17'-2"	—
e ₁₀₈ (E)	3	#8	27'-6"	—
e ₁₀₉ (E)	2	#8	16'-3"	—
e ₁₁₀ (E)	4	#8	29'-4"	—
e ₁₁₁ (E)	2	#8	17'-7"	—
e ₁₁₂ (E)	4	#8	28'-3"	—
e ₁₁₃ (E)	4	#4	22'-7"	—
e ₁₁₄ (E)	4	#4	26'-11"	—
e ₁₁₅ (E)	4	#4	25'-10"	—
e ₁₁₆ (E)	10	#5	4'-0"	—
x ₁₀₀ (E)	164	#5	4'-1"	—
Concrete Removal		Cu. Yd.	269.7	
Reinforcement Bars, Epoxy Coated		Pound	83,710	
Concrete Superstructure		Cu. Yd.	293.8	
Bar Splicers		Each	4	



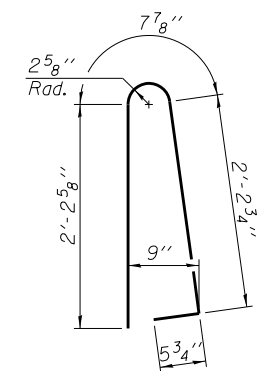
SECTION B-B
(Horiz. dim. at right L's)



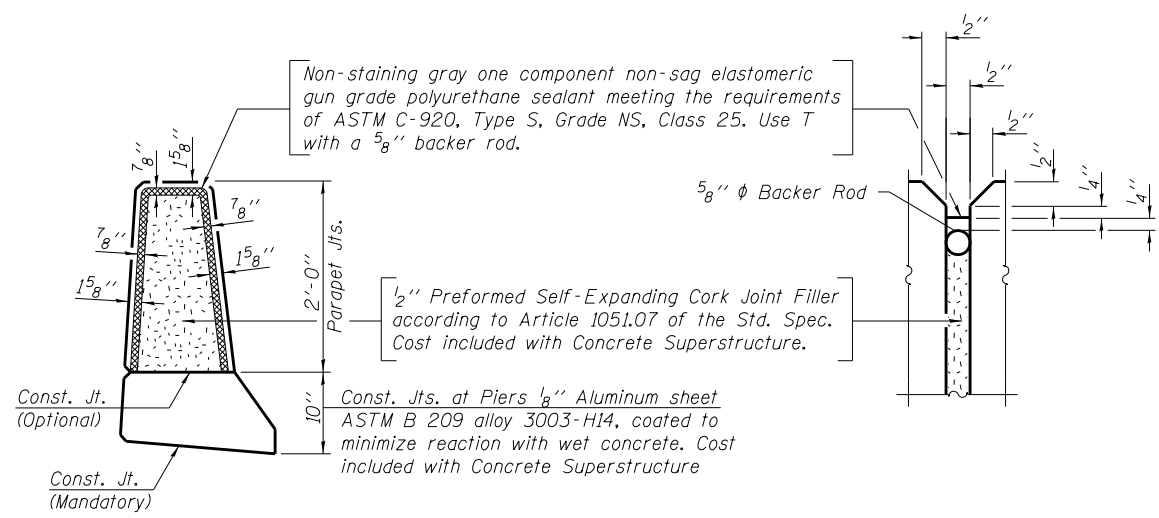
BAR d₁₀₃(E)



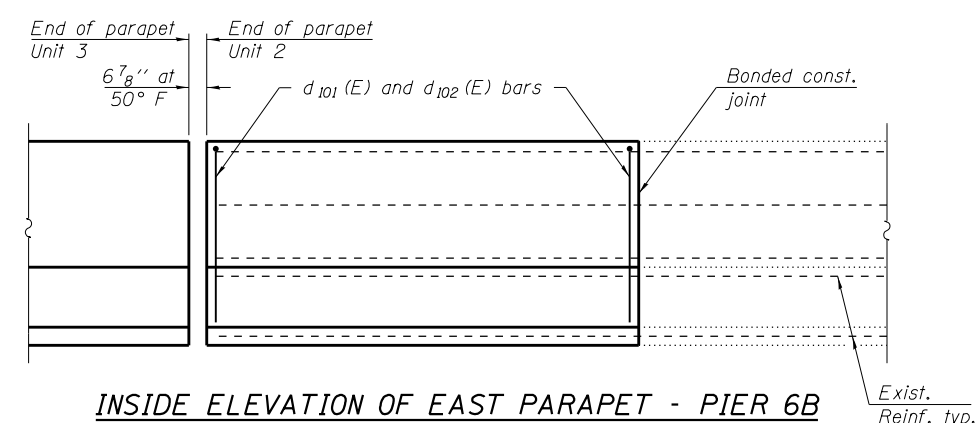
SECTION C-C
(Horiz. dim. at right L's)



BAR d₁₀₄(E)

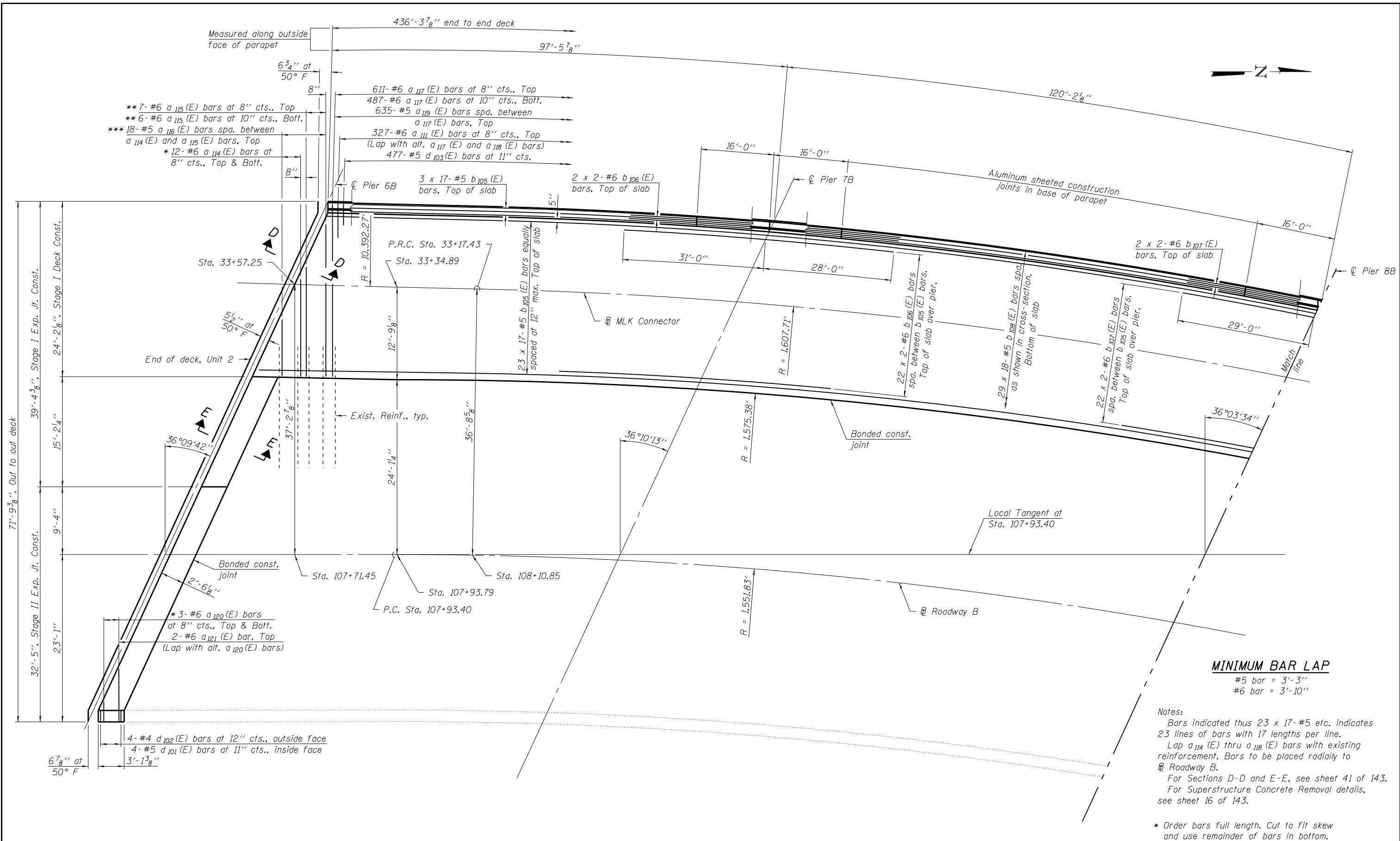


PARAPET JOINT DETAILS



INSIDE ELEVATION OF EAST PARAPET - PIER 6B

Notes:
For d₁₀₀(E) thru d₁₀₂(E) bars bending diagrams, see sheet 32 of 143
For details of Inside Elevation of East Parapet-Unit 3, see sheet 41 of 143.



MINIMUM BAR LAP
 #5 bar = 3'-3"
 #6 bar = 3'-10"

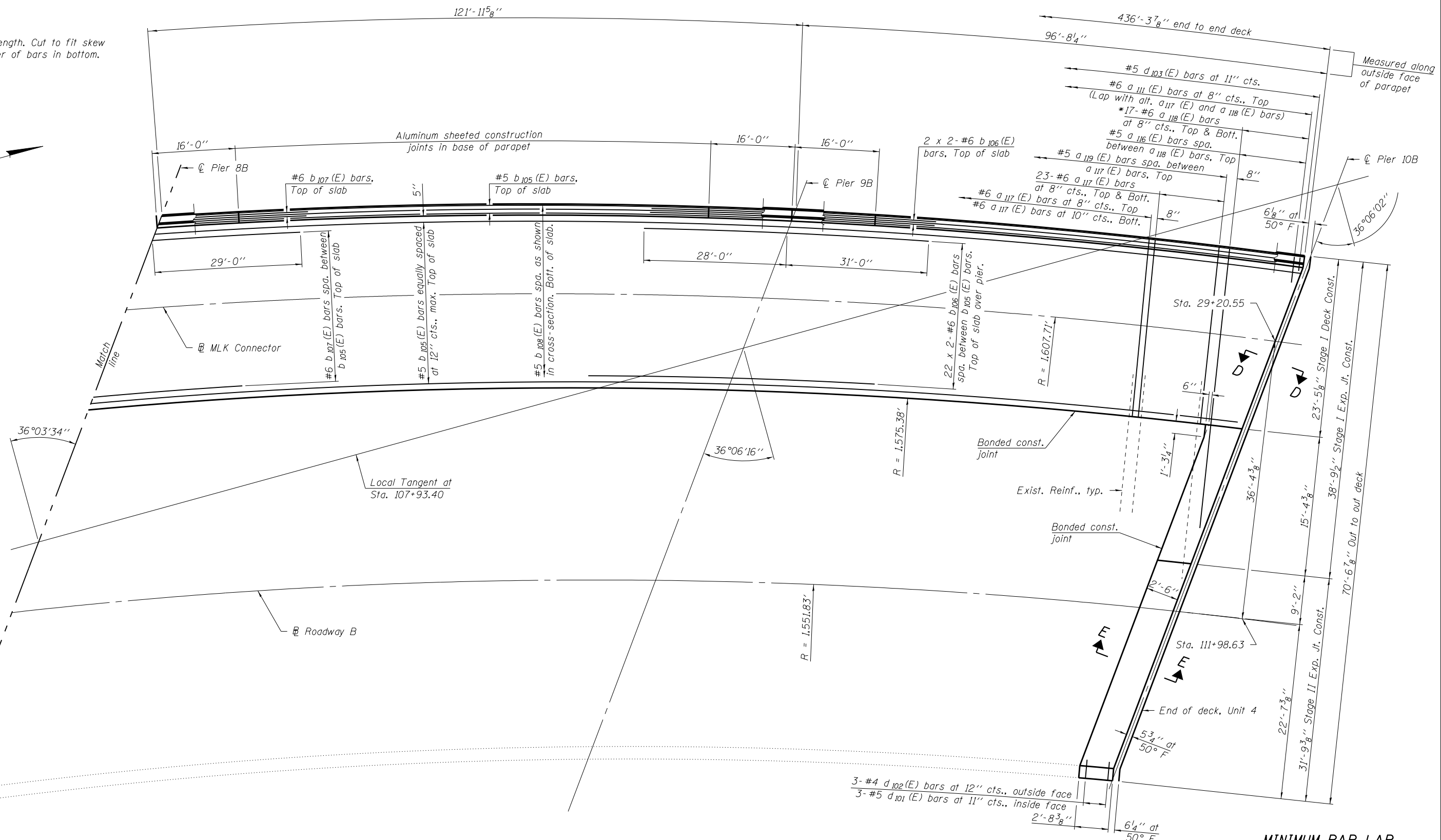
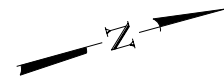
Notes:
 Bars indicated thus 23 x 17-#5 etc. indicates 23 lines of bars with 17 lengths per line.
 Lap a₁₁₄(E) thru a₁₁₈(E) bars with existing reinforcement. Bars to be placed radially to Roadway B.
 For Sections D-D and E-E, see sheet 41 of 143.
 For Superstructure Concrete Removal details, see sheet 16 of 143.

* Order bars full length. Cut to fit skew and use remainder of bars in bottom.
 ** Cut in field.
 *** Order bars full length. Cut to fit skew and use remainder of bars in opposite end.

PART PLAN

FILE NAME = X:\1309400-MLK\Cad\15082000-76009.dgn 	DESIGNED - T.S. Friederich	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS - UNIT 3 STRUCTURE NO. 082-0010	F.A.I. RT. = 64	SECTION = 82-(1,4)B-1	COUNTY = ST. CLAIR	TOTAL SHEETS = 406	SHEET NO. = 229	
	USER NAME = elagemann	CHECKED - K.A. Klues			REVISED	CONTRACT NO. 76009				
	PLOT SCALE =	DRAWN - T.S. Friederich			REVISED	ILLINOIS FED. AID PROJECT				
	PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann			REVISED	SHEET NO. 37 OF 143 SHEETS				

*Order bars full length. Cut to fit skew and use remainder of bars in bottom.
 **Cut in field.

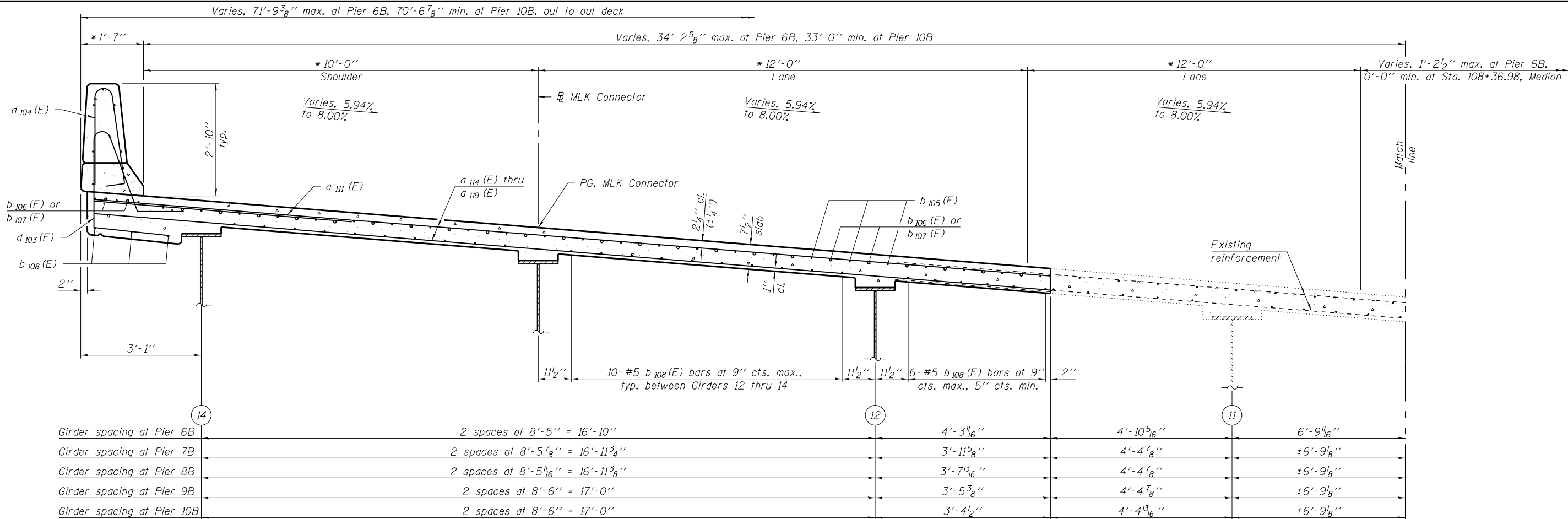


MINIMUM BAR LAP
 #5 bar = 3'-3"
 #6 bar = 3'-10"

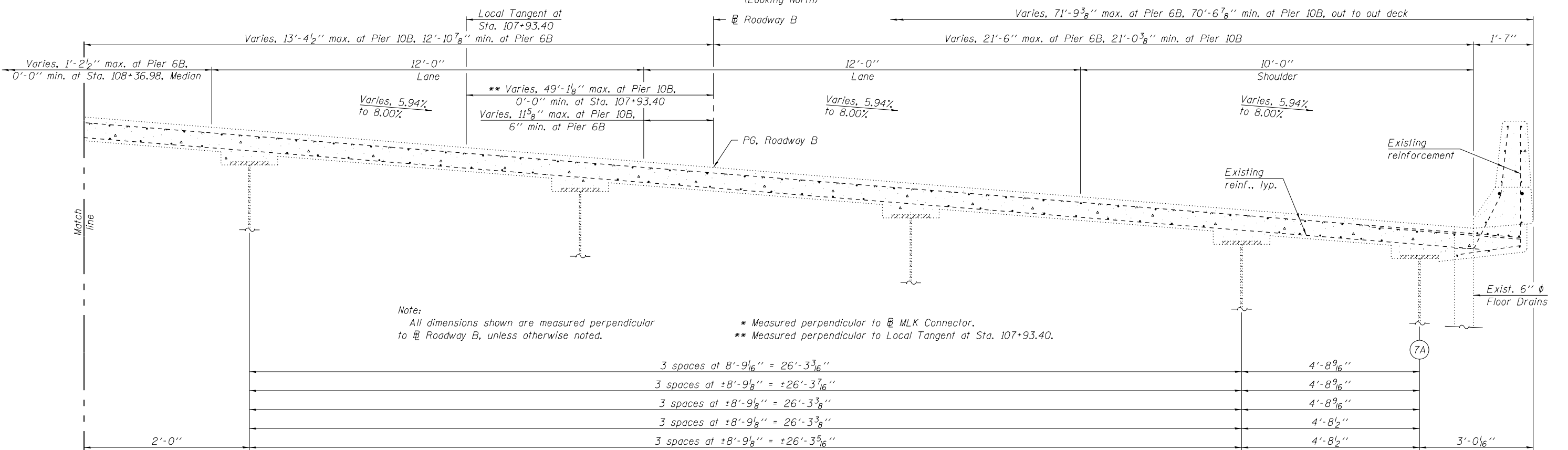
Notes:
 Bars indicated thus 22 x 2-#6 etc. indicates 22 lines of bars with 2 lengths per line.
 Lap a114 (E) thru a118 (E) bars with existing reinforcement. Bars to be placed radially to Roadway B.
 For Sections D-D and E-E, see sheet 41 of 143.

PART PLAN

FILE NAME = X:\1309400-MLK\Cad\15\082200-76009.dgn 	USER NAME = elagemann	DESIGNED - T.S. Friederich	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS - UNIT 3 STRUCTURE NO. 082-0010	F.A.I. RE. = 64	SECTION = 82-(1,4)B-1	COUNTY = ST. CLAIR	TOTAL SHEETS = 406	SHEET NO. = 230
	PLOT SCALE =	DRAWN - T.S. Friederich	REVISED			SHEET NO. = 38 OF 143 SHEETS	CONTRACT NO. 76009			
	PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann	REVISED			ILLINOIS FED. AID PROJECT				



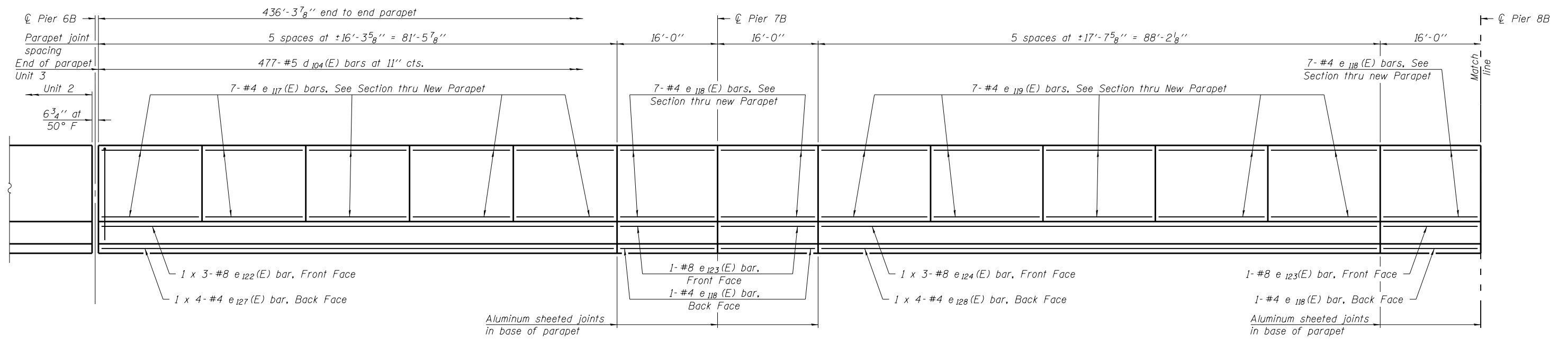
PART CROSS-SECTION
(Looking North)



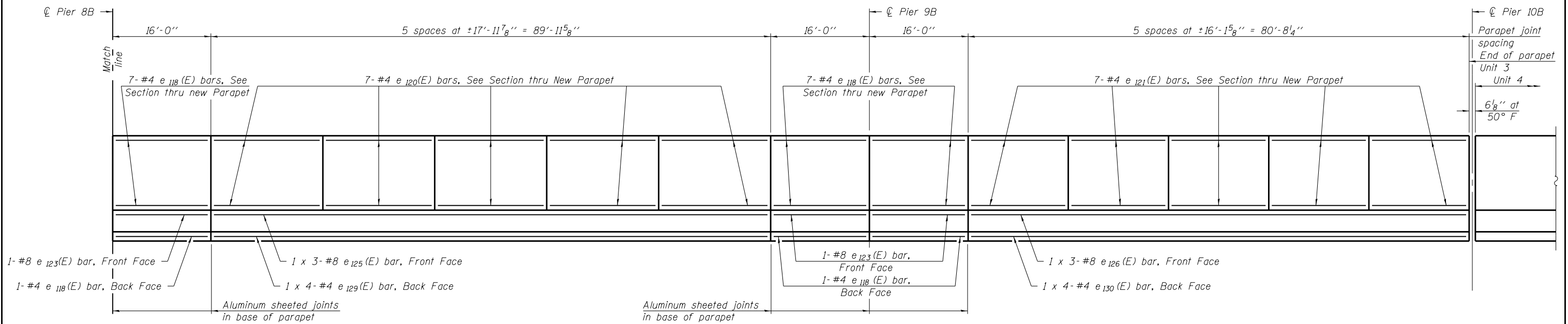
PART CROSS-SECTION
(Looking North)

Note: All dimensions shown are measured perpendicular to \perp Roadway B, unless otherwise noted.

* Measured perpendicular to \perp MLK Connector.
 ** Measured perpendicular to Local Tangent at Sta. 107+93.40.



PART INSIDE ELEVATION OF WEST PARAPET



PART INSIDE ELEVATION OF WEST PARAPET

MINIMUM BAR LAP

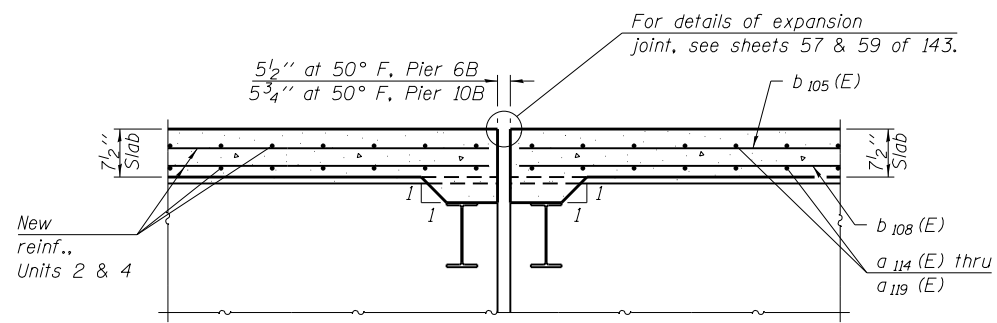
- (Parapet)
- #4 bar = 2'-0"
- #8 bar = 5'-2"

Note:
For Parapet Joint details, see sheet 36 of 143.

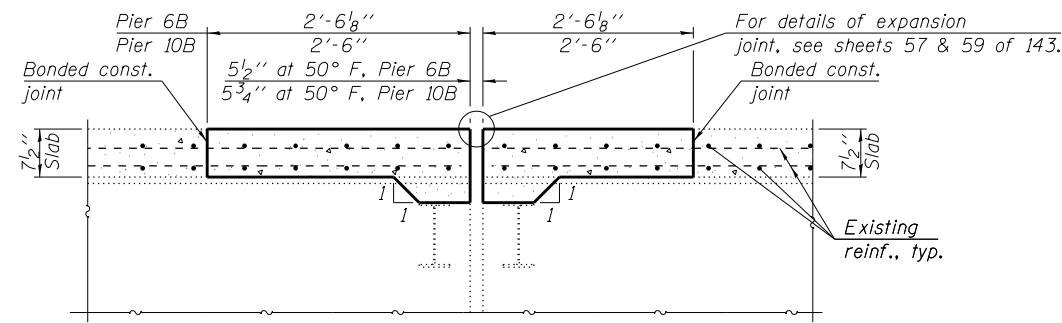
FILE NAME = X:\1309400-MLK\Cad\1082000-76009.dgn 	DESIGNED - T.S. Friederich	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS - UNIT 3 STRUCTURE NO. 082-0010	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	USER NAME = elagemann	CHECKED - K.A. Klues			REVISED	64	82-(1,4)B-1	ST. CLAIR	406
PLOT SCALE =	DRAWN - T.S. Friederich	REVISED	SHEET NO. 40 OF 143 SHEETS		CONTRACT NO. 76G09		ILLINOIS FED. AID PROJECT		
PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann	REVISED							

**SUPERSTRUCTURE
BILL OF MATERIAL**

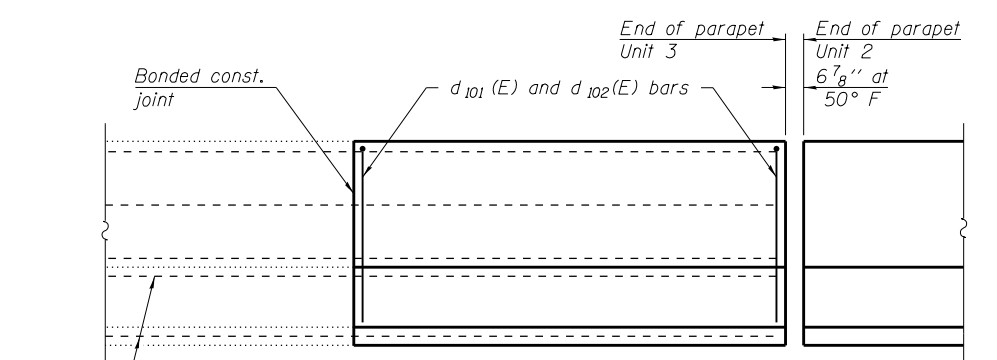
Bar	No.	Size	Length	Shape
a ₁₁₁ (E)	327	#6	6'-6"	—
a ₁₁₄ (E)	12	#6	19'-5"	—
a ₁₁₅ (E)	13	#6	21'-2"	—
a ₁₁₆ (E)	18	#5	33'-8"	—
a ₁₁₇ (E)	1,144	#6	23'-0"	—
a ₁₁₈ (E)	17	#6	31'-9"	—
a ₁₁₉ (E)	635	#5	23'-0"	—
a ₁₂₀ (E)	3	#6	7'-11"	—
a ₁₂₁ (E)	2	#6	4'-0"	—
b ₁₀₅ (E)	442	#5	28'-10"	—
b ₁₀₆ (E)	96	#6	31'-5"	—
b ₁₀₇ (E)	48	#6	30'-11"	—
b ₁₀₈ (E)	522	#5	27'-5"	—
d ₁₀₁ (E)	7	#5	3'-11"	L
d ₁₀₂ (E)	7	#4	5'-2"	L
d ₁₀₃ (E)	477	#5	8'-0"	L
d ₁₀₄ (E)	477	#5	5'-7"	L
e ₁₁₇ (E)	35	#4	16'-0"	—
e ₁₁₈ (E)	48	#4	15'-9"	—
e ₁₁₉ (E)	35	#4	17'-4"	—
e ₁₂₀ (E)	35	#4	17'-8"	—
e ₁₂₁ (E)	35	#4	15'-10"	—
e ₁₂₂ (E)	3	#8	30'-7"	—
e ₁₂₃ (E)	6	#8	15'-9"	—
e ₁₂₄ (E)	3	#8	32'-10"	—
e ₁₂₅ (E)	3	#8	33'-5"	—
e ₁₂₆ (E)	3	#8	30'-4"	—
e ₁₂₇ (E)	4	#4	21'-10"	—
e ₁₂₈ (E)	4	#4	23'-6"	—
e ₁₂₉ (E)	4	#4	24'-0"	—
e ₁₃₀ (E)	4	#4	21'-8"	—
Concrete Removal		Cu. Yd.	214.3	
Reinforcement Bars, Epoxy Coated		Pound	105,570	
Concrete Superstructure		Cu. Yd.	321.5	



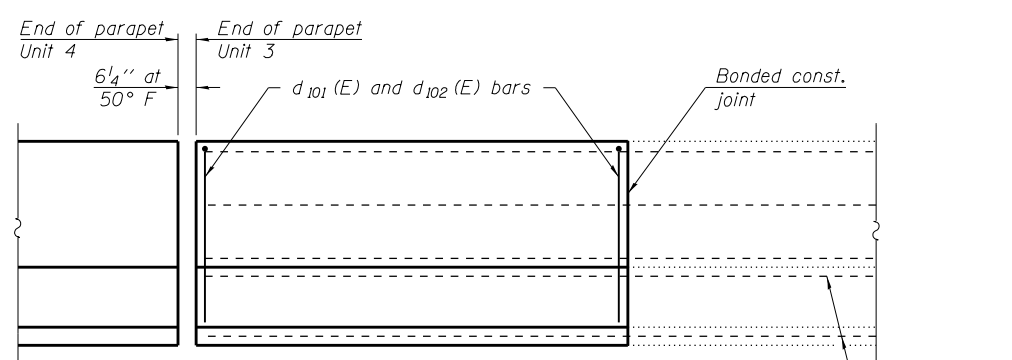
SECTION D-D
(Horiz. dim. at right L's)



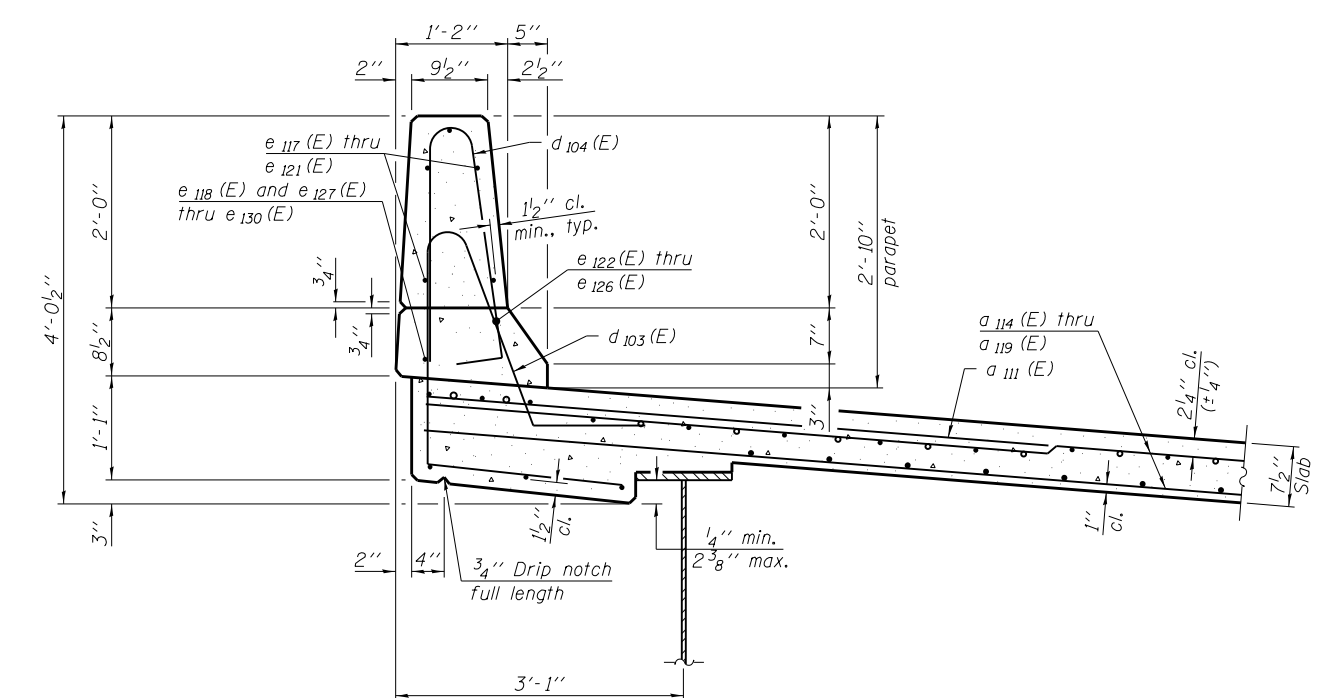
SECTION E-E
(Horiz. dim. at right L's)



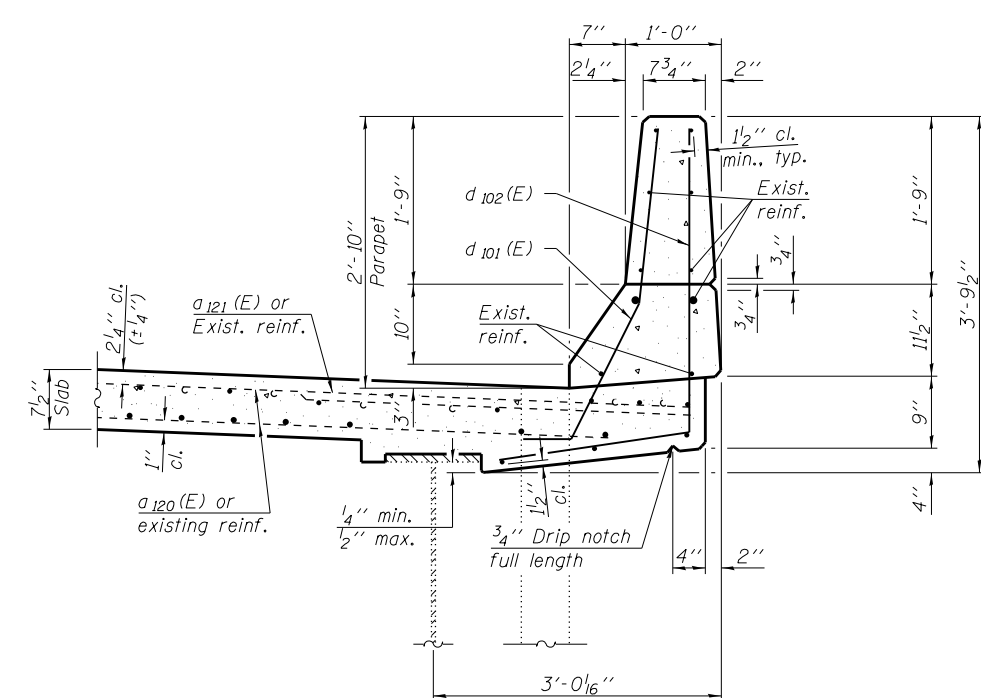
INSIDE ELEVATION OF EAST PARAPET - PIER 6B



INSIDE ELEVATION OF EAST PARAPET - PIER 10B

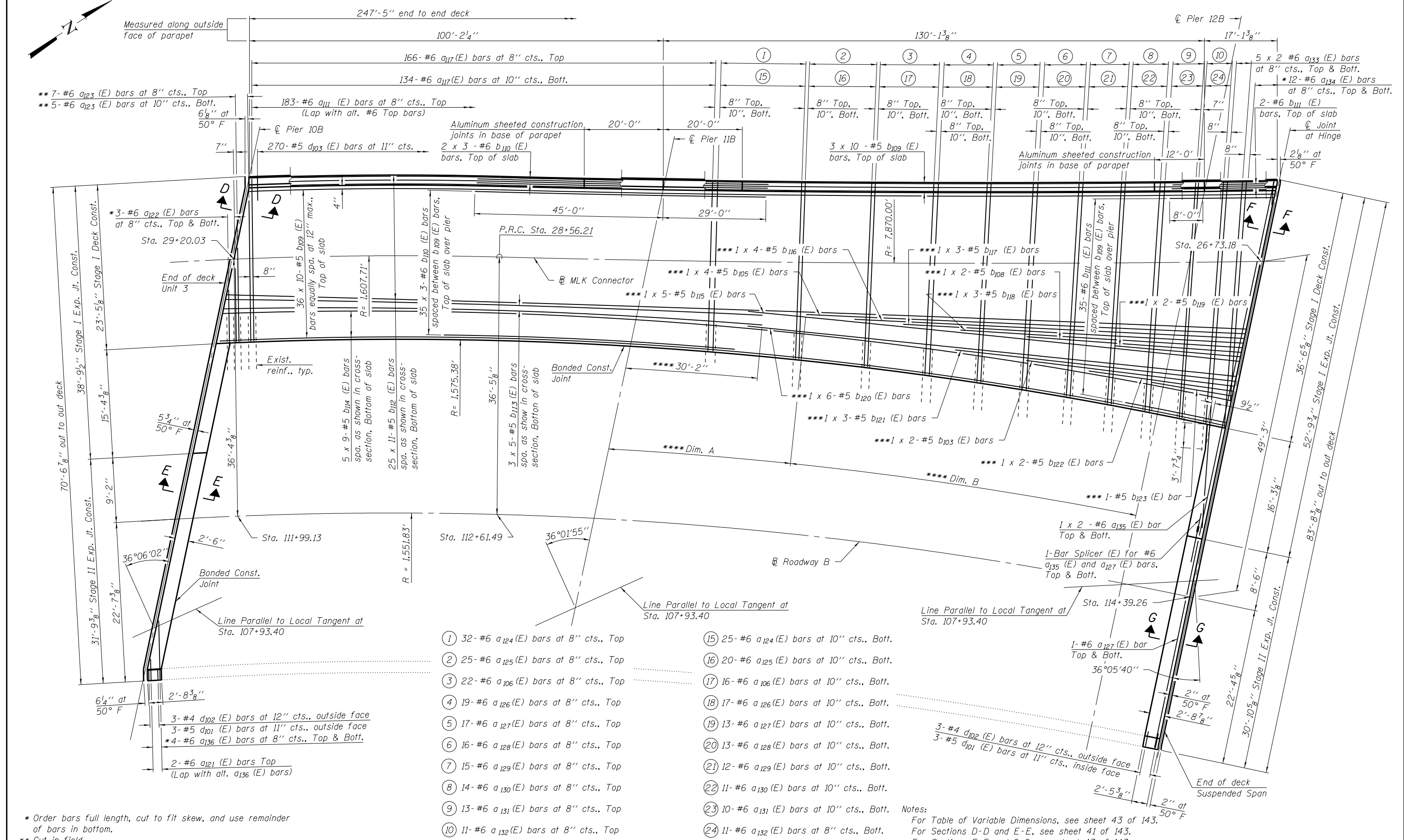
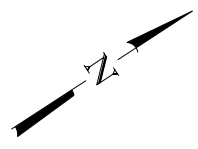


SECTION THRU NEW PARAPET



SECTION THRU EXISTING PARAPET

Notes:
For d₁₀₁ (E) and d₁₀₂ (E) bar bending diagrams, see sheet 32 of 143.
For d₁₀₃ (E) and d₁₀₄ (E) bar bending diagrams, see sheet 36 of 143.



* Order bars full length, cut to fit skew, and use remainder of bars in bottom.
 ** Cut in field
 *** Spaced as shown in Part Cross-Section, Bottom of slab.
 **** Measured along a line concentric to Ⓜ Roadway B.

- ① 32- #6 a₁₂₄ (E) bars at 8" cts., Top
- ② 25- #6 a₁₂₅ (E) bars at 8" cts., Top
- ③ 22- #6 a₁₀₆ (E) bars at 8" cts., Top
- ④ 19- #6 a₁₂₆ (E) bars at 8" cts., Top
- ⑤ 17- #6 a₁₂₇ (E) bars at 8" cts., Top
- ⑥ 16- #6 a₁₂₈ (E) bars at 8" cts., Top
- ⑦ 15- #6 a₁₂₉ (E) bars at 8" cts., Top
- ⑧ 14- #6 a₁₃₀ (E) bars at 8" cts., Top
- ⑨ 13- #6 a₁₃₁ (E) bars at 8" cts., Top
- ⑩ 11- #6 a₁₃₂ (E) bars at 8" cts., Top
- ⑪ 25- #6 a₁₂₄ (E) bars at 10" cts., Bott.
- ⑫ 20- #6 a₁₂₅ (E) bars at 10" cts., Bott.
- ⑬ 16- #6 a₁₀₆ (E) bars at 10" cts., Bott.
- ⑭ 17- #6 a₁₂₆ (E) bars at 10" cts., Bott.
- ⑮ 13- #6 a₁₂₇ (E) bars at 10" cts., Bott.
- ⑯ 13- #6 a₁₂₈ (E) bars at 10" cts., Bott.
- ⑰ 12- #6 a₁₂₉ (E) bars at 10" cts., Bott.
- ⑱ 11- #6 a₁₃₀ (E) bars at 10" cts., Bott.
- ⑲ 10- #6 a₁₃₁ (E) bars at 10" cts., Bott.
- ⑳ 11- #6 a₁₃₂ (E) bars at 8" cts., Bott.

Notes:
 For Table of Variable Dimensions, see sheet 43 of 143.
 For Sections D-D and E-E, see sheet 41 of 143.
 For Sections F-F and G-G, see sheet 47 of 143.
 For additional notes and minimum lap dimensions, see sheet 43 of 143.

PART PLAN

FILE NAME = X:\1309400-MLK\Cad\15\082200-76089.dgn USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - T.S. Friederich	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS - UNIT 4 STRUCTURE NO. 082-0010	F.A.I. R.E. = 64	SECTION = 82-(1,4)B-1	COUNTY = ST. CLAIR	TOTAL SHEETS = 406	SHEET NO. = 234
	CHECKED - K.A. Klues	REVISED			CONTRACT NO. 7609	ILLINOIS FED. AID PROJECT			
HORNER & SHIFRIN, INC. ENGINEERS	DRAWN - J.N. Bailey	REVISED	SHEET NO. 42 OF 143 SHEETS						

TABLE OF VARIABLE DIMENSIONS

Bar	Dim. A	Dim. B
b ₁₀₃ (E)	94'-1 1/8"	32'-11 1/8"
b ₁₀₅ (E)	39'-11 3/4"	87'-0 3/4"
b ₁₀₈ (E)	92'-9 3/4"	34'-3"
b ₁₁₅ (E)	26'-2"	100'-10 1/2"
b ₁₁₆ (E)	51'-7 1/2"	75'-5"
b ₁₁₇ (E)	63'-3 3/8"	63'-9 3/8"
b ₁₁₈ (E)	77'-0"	50'-0 3/4"
b ₁₁₉ (E)	113'-9 7/8"	13'-3"
b ₁₂₀ (E)	26'-9 3/8"	100'-3 1/4"
b ₁₂₁ (E)	76'-9 1/8"	50'-3 3/4"
b ₁₂₂ (E)	109'-0 1/8"	18'-1"
b ₁₂₃ (E)	124'-1 3/4"	2'-11 3/8"

- ⑪ 12- #6 a₁₃₇ (E) bars at 7 1/2" cts., Top & Bott.
- ⑫ 12- #6 a₁₃₈ (E) bars at 7 1/2" cts., Top & Bott.
- ⑬ 11- #6 a₁₃₉ (E) bars at 7 1/2" cts., Top & Bott.
- ⑭ 10- #6 a₁₄₀ (E) bars at 7 1/2" cts., Top & Bott.
- ⑮ 12- #5 a₁₄₃ (E) bars Spa. between a₁₃₇ (E) bars, Top
- ⑯ 12- #5 a₁₄₄ (E) bars Spa. between a₁₃₈ (E) bars, Top
- ⑰ 11- #5 a₁₄₅ (E) bars Spa. between a₁₃₉ (E) bars, Top
- ⑱ 9- #5 a₁₄₆ (E) bars Spa. between a₁₄₀ (E) bars, Top

Notes:

Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on sheet 56 of 143.

Vertical dimensions shown are perpendicular to \perp Roadway B. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with "Concrete Removal".

Cut ends of existing reinforcement bars extending into new construction to maintain 1 1/2" minimum clearance.

Lap transverse reinforcement bars with existing reinforcement at the spacing shown.

For Superstructure details and Bill of Materials, see sheet 47 of 143.

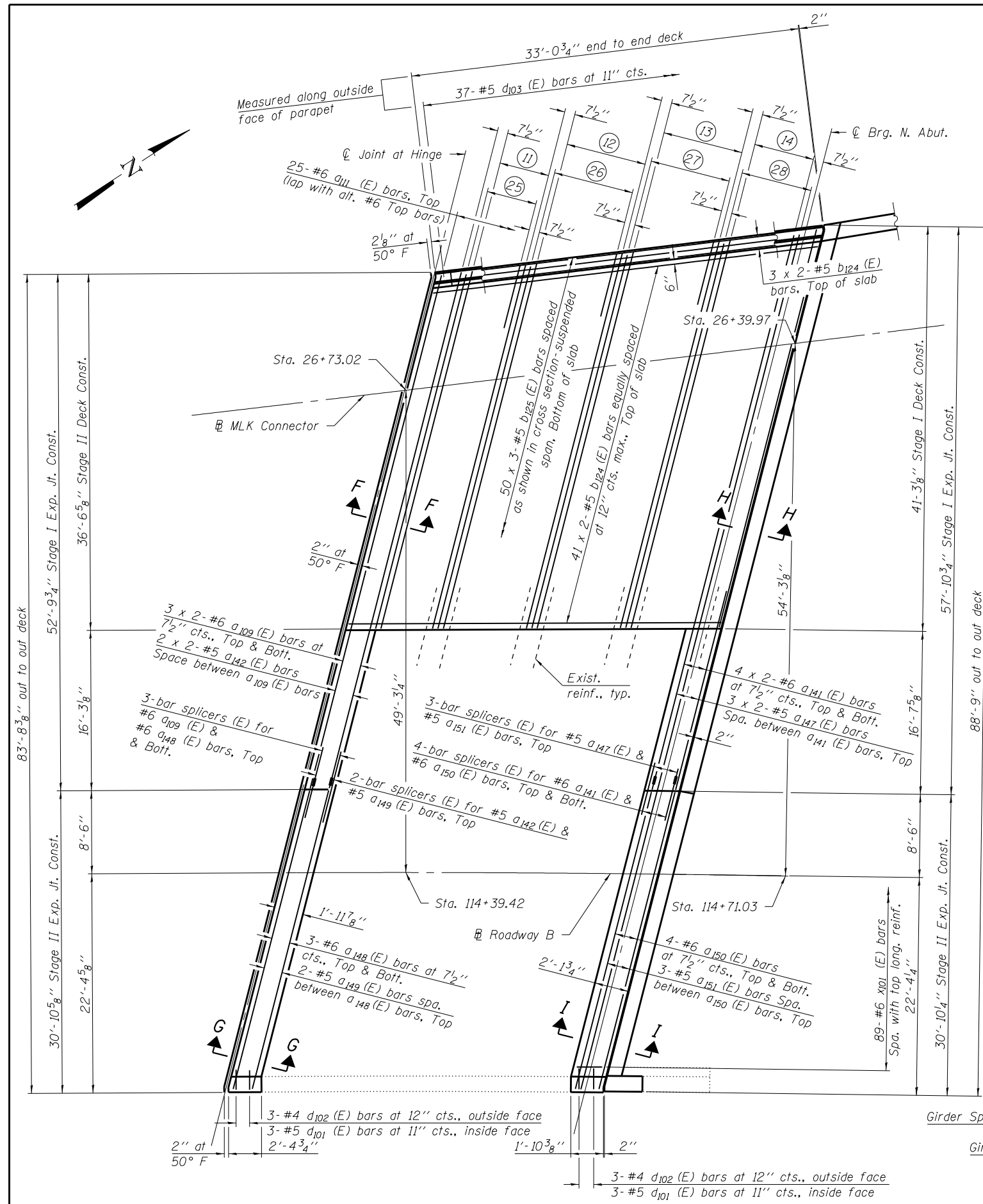
For parapet reinforcement details, see sheet 46 of 143.

For details of Bar Splicers, see sheet 125 of 143.

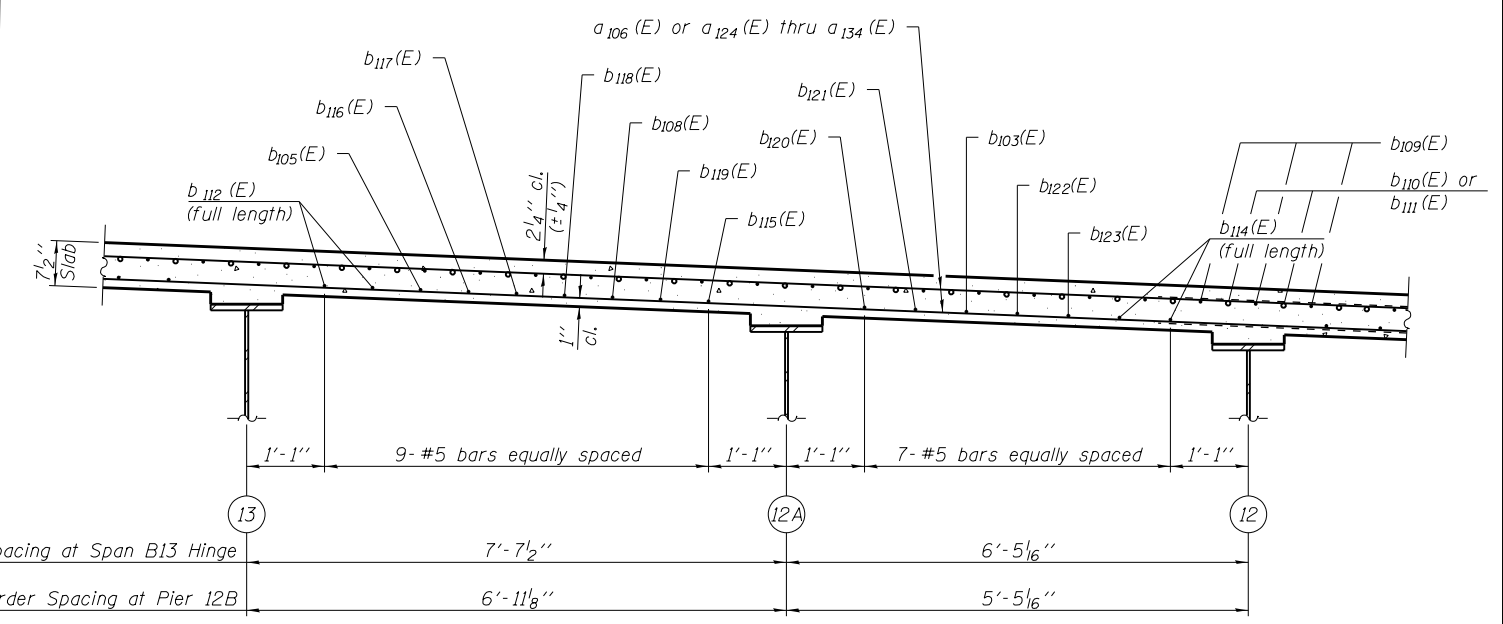
For Superstructure Concrete Removal details, see sheet 17 of 143.

MINIMUM BAR LAP

- #5 bar = 3'-3"
- #6 bar = 3'-10"



PART PLAN

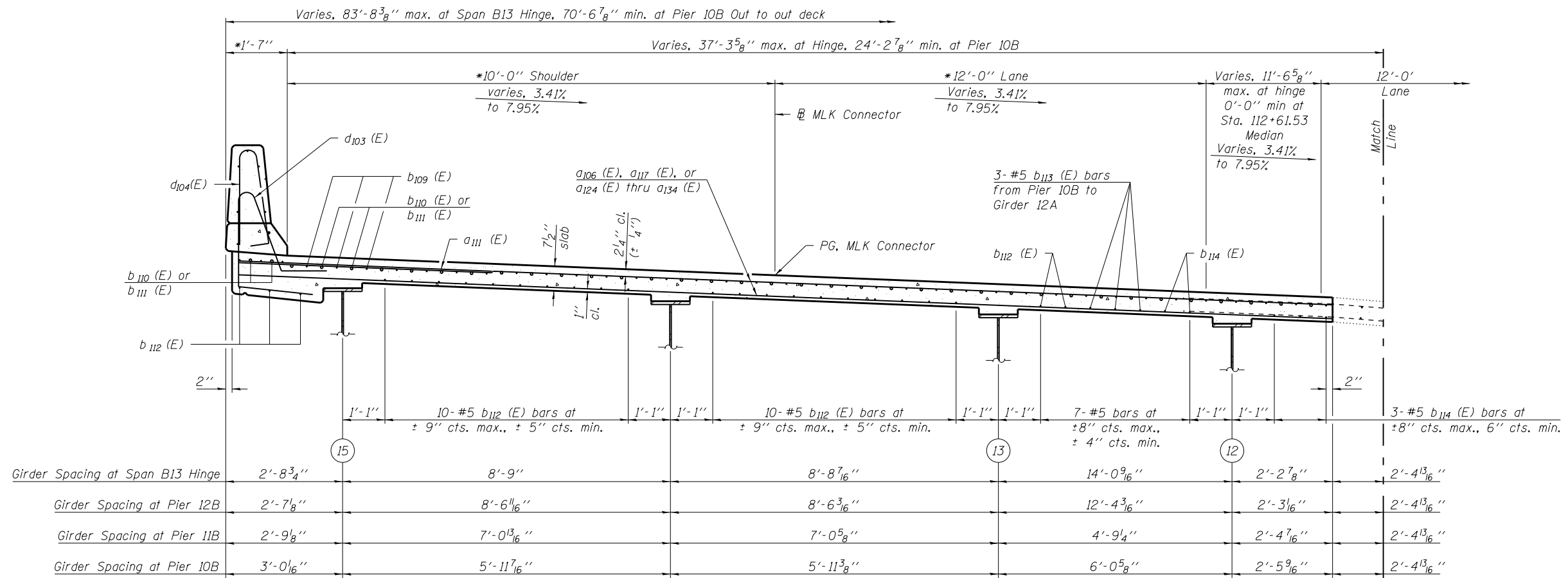


PART CROSS-SECTION

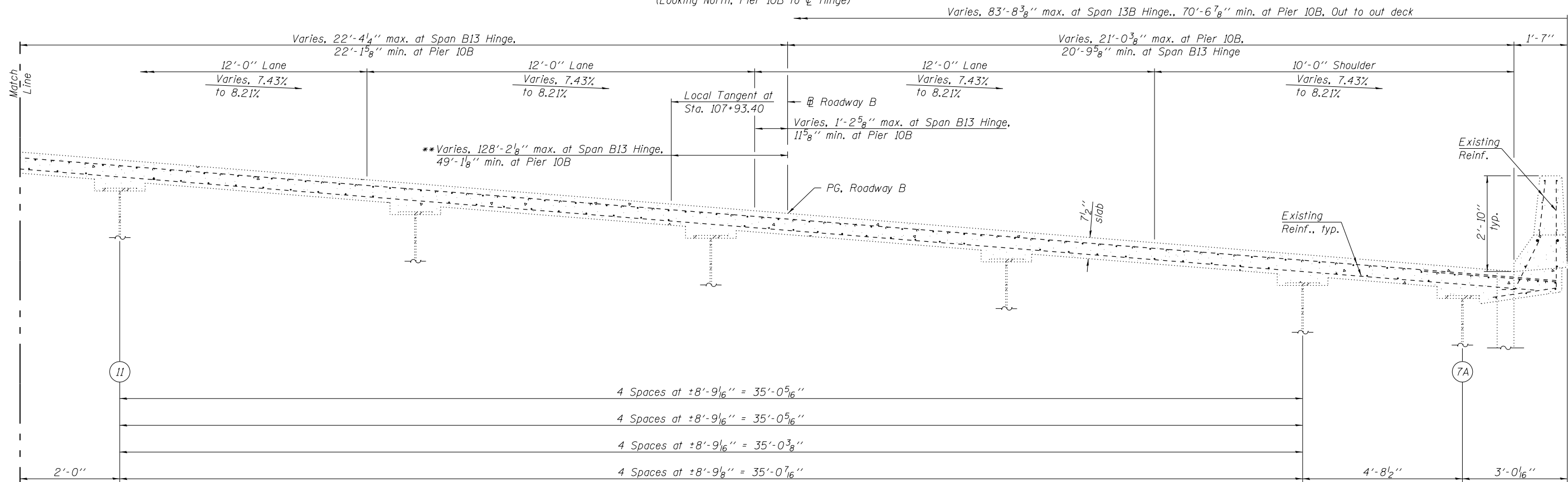
(Looking North, Beginning Girder 12A to \perp Hinge)

Notes:

For Sections F-F, G-G, H-H, and I-I, see sheet 47 of 143.



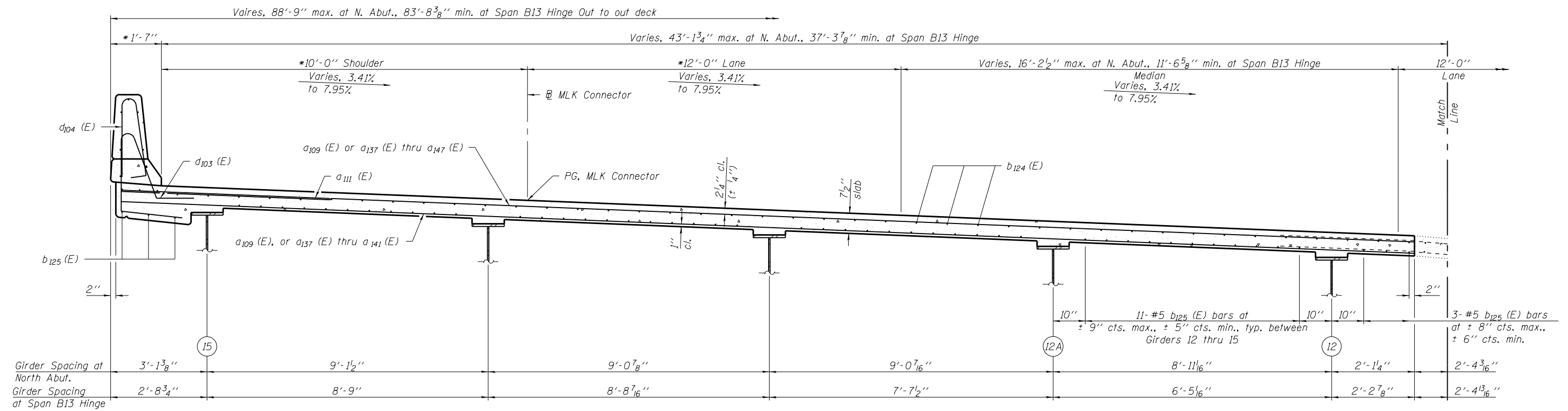
PART CROSS-SECTION
(Looking North, Pier 10B to Hinge)



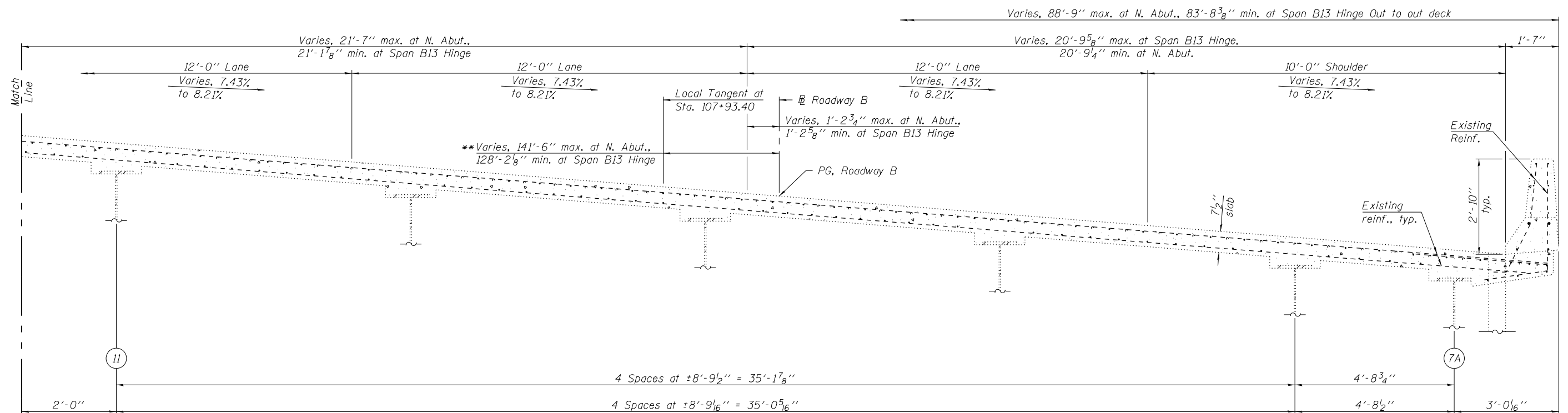
PART CROSS-SECTION
(Looking North, Pier 10B to Hinge)

Notes:
For reinf. bar layout between Girders 12, 12A, and 13, see sheet 43 of 143.
All dimensions shown are measured perpendicular to Roadway B, unless otherwise noted.

FILE NAME = X:\1309400-MLK\Cad\1082000-76009.dgn USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - T.S. Friederich	REVISD	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS - UNIT 4 STRUCTURE NO. 082-0010	F.A.I. R.E. = 64	SECTION = 82-(1,4)B-1	COUNTY = ST. CLAIR	TOTAL SHEETS = 406	SHEET NO. = 236
	CHECKED - K.A. Klues	REVISD			CONTRACT NO. 76009	ILLINOIS FED. AID PROJECT			
	DRAWN - J.N. Bailey	REVISD	SHEET NO. 44 OF 143 SHEETS						
	CHECKED - E.M. Lagemann	REVISD							



PART CROSS-SECTION
(Looking North, Suspended Span)



PART CROSS-SECTION
(Looking North, Suspended Span)

* Measured perpendicular to MLK Connector.
** Measured perpendicular to Local Tangent at Sta. 107+93.40

Note:
All dimensions shown are measured perpendicular to Roadway B, unless otherwise noted.

FILE NAME = X:\1309400-MLK\Cad\15\082200-76609.dgn	DESIGNED - T.S. Friederich	REVISED
USER NAME = elagemann	CHECKED - K.A. Klues	REVISED
PLOT SCALE =	DRAWN - J.N. Bailey	REVISED
PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann	REVISED

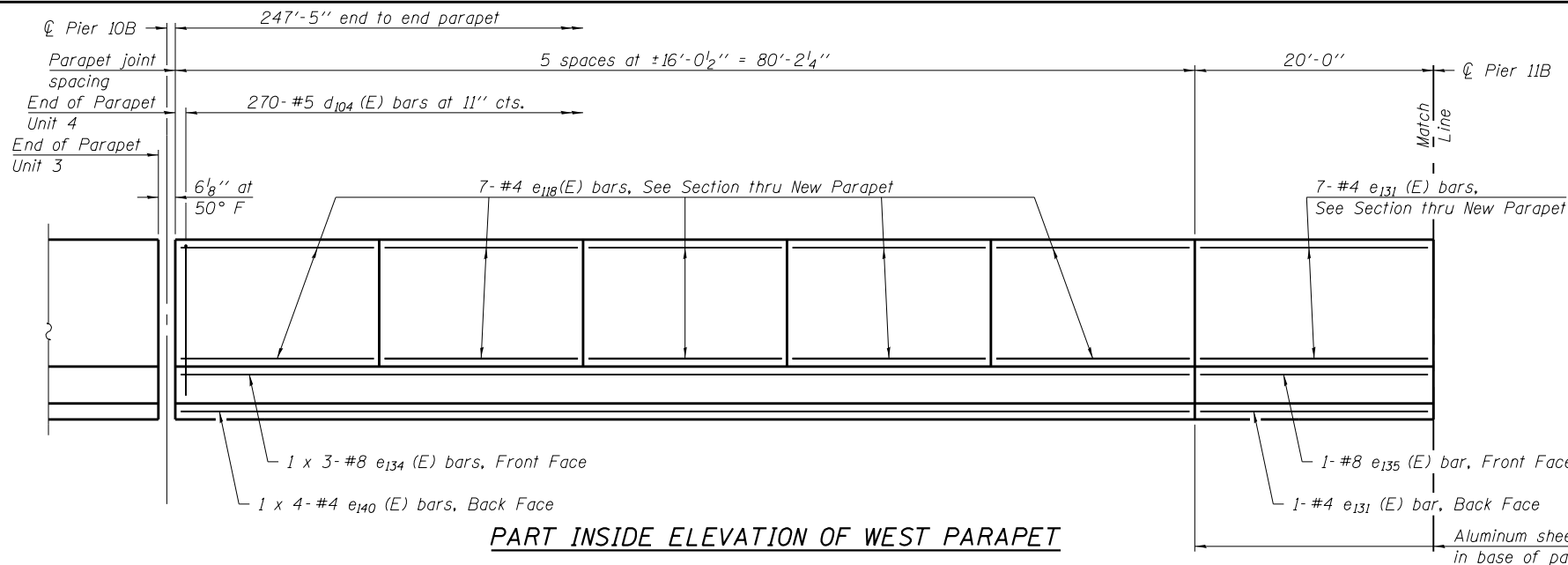
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS - UNIT 4
STRUCTURE NO. 082-0010

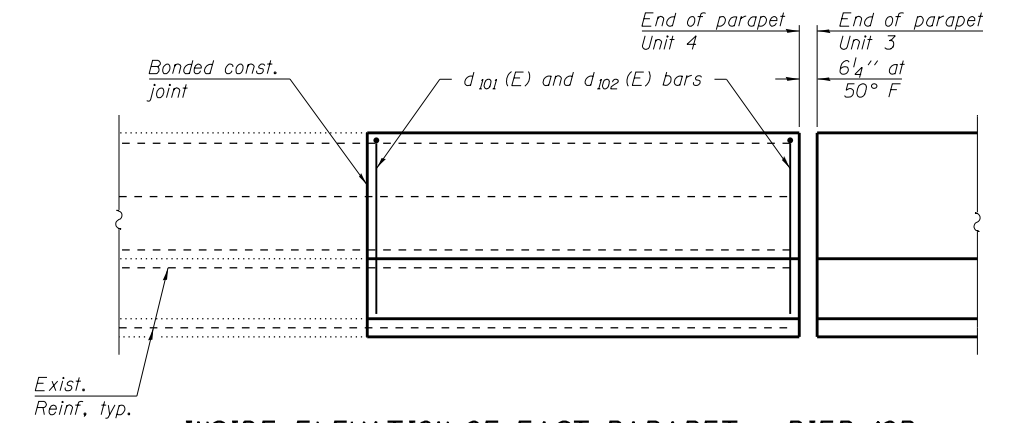
SHEET NO. 45 OF 143 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	82-(1,4)B-1	ST. CLAIR	406	237
CONTRACT NO. 76C09				

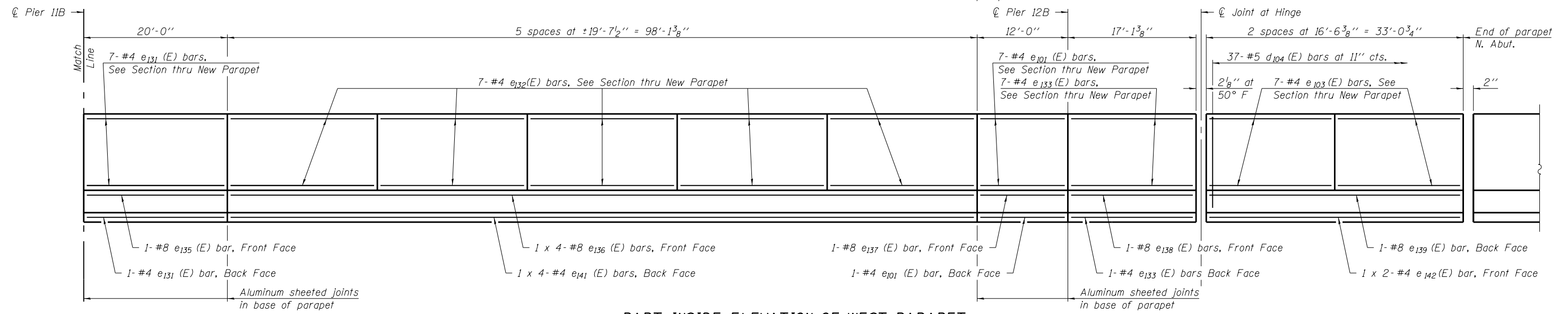
ILLINOIS FED. AID PROJECT



PART INSIDE ELEVATION OF WEST PARAPET



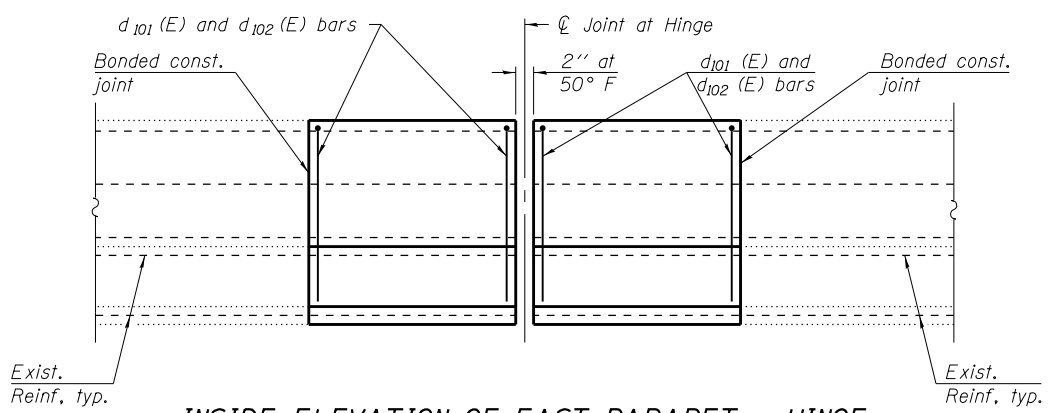
INSIDE ELEVATION OF EAST PARAPET - PIER 10B



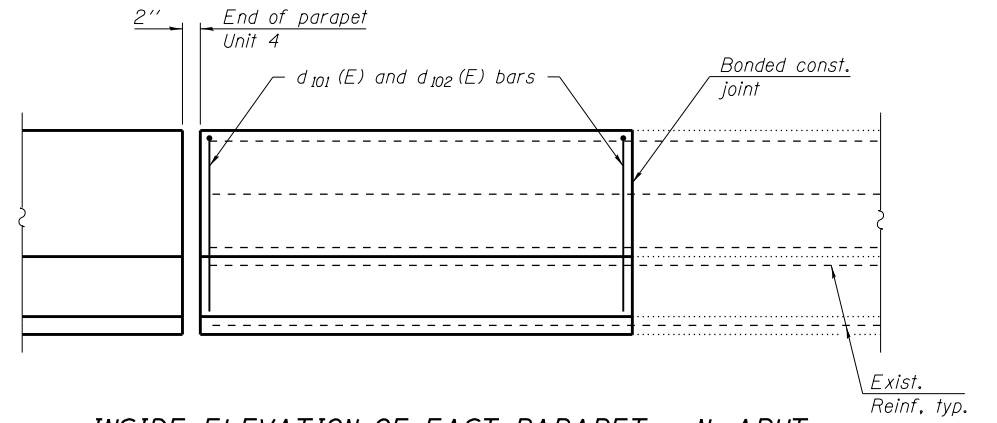
PART INSIDE ELEVATION OF WEST PARAPET

MINIMUM BAR LAP

(Parapet)
 #4 bar = 2'-0"
 #8 bar = 5'-2"



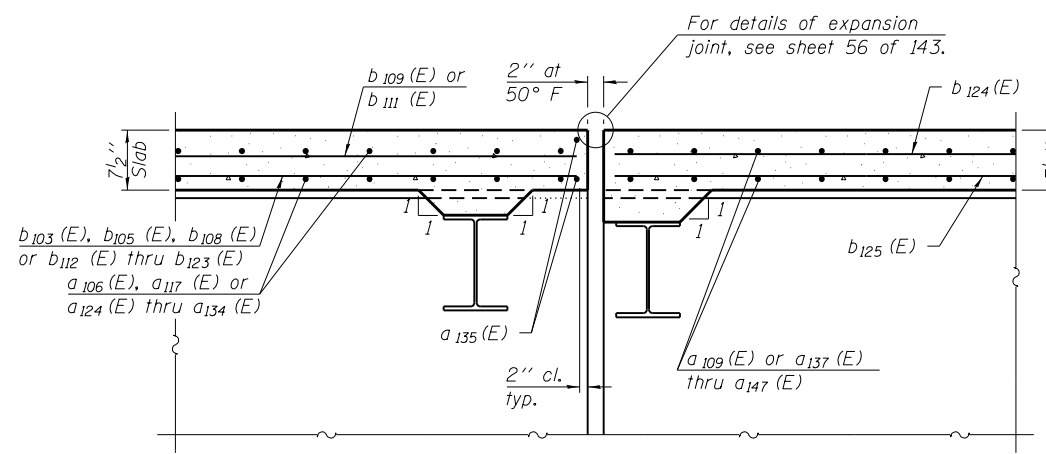
INSIDE ELEVATION OF EAST PARAPET - HINGE



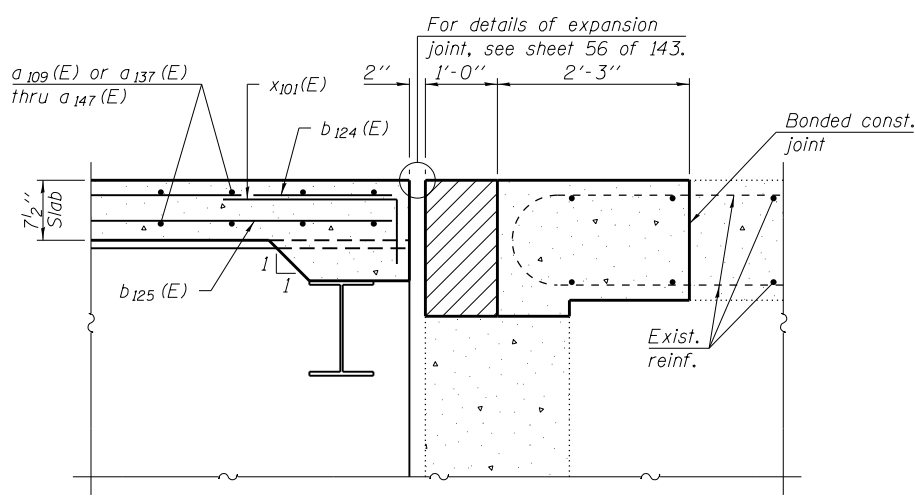
INSIDE ELEVATION OF EAST PARAPET - N. ABUT.

Note:
 For Parapet Joint Details, see sheet 36 of 143.

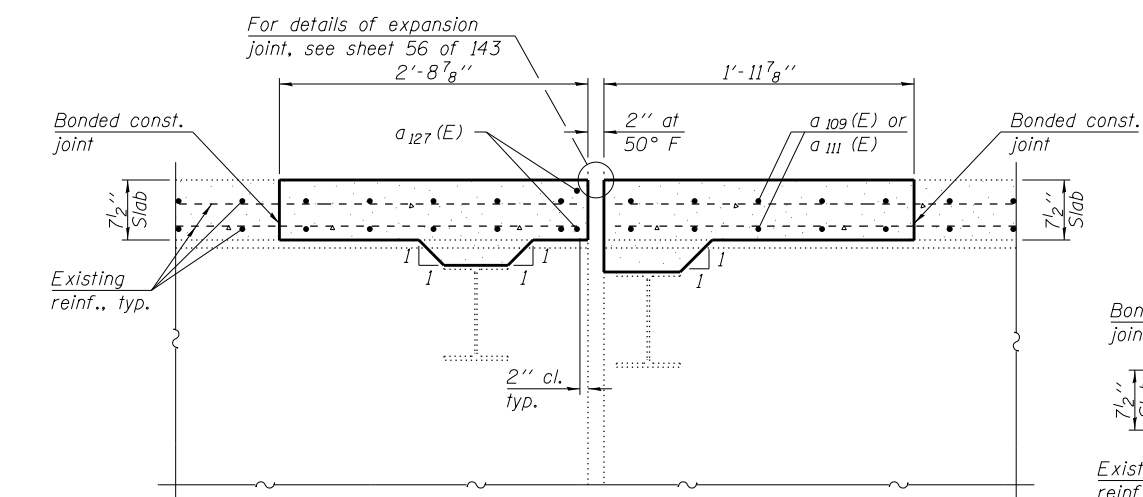
FILE NAME = X:\1309400-MLK\Cad\15\082000-76009.dgn 	USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - T.S. Friederich CHECKED - K.A. Klues DRAWN - J.N. Bailey CHECKED - E.M. Lagemann	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS - UNIT 4 STRUCTURE NO. 082-0010 SHEET NO. 46 OF 143 SHEETS	F.A.I. RTÉ. 64	SECTION 82-1,4/B-1	COUNTY ST. CLAIR	TOTAL SHEETS 406 SHEET NO. 238	CONTRACT NO. 76G09 ILLINOIS FED. AID PROJECT	



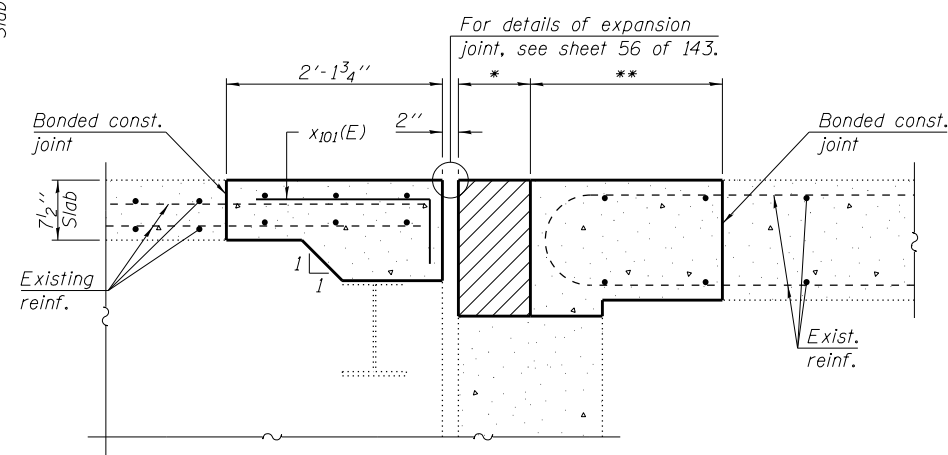
SECTION F-F



SECTION H-H

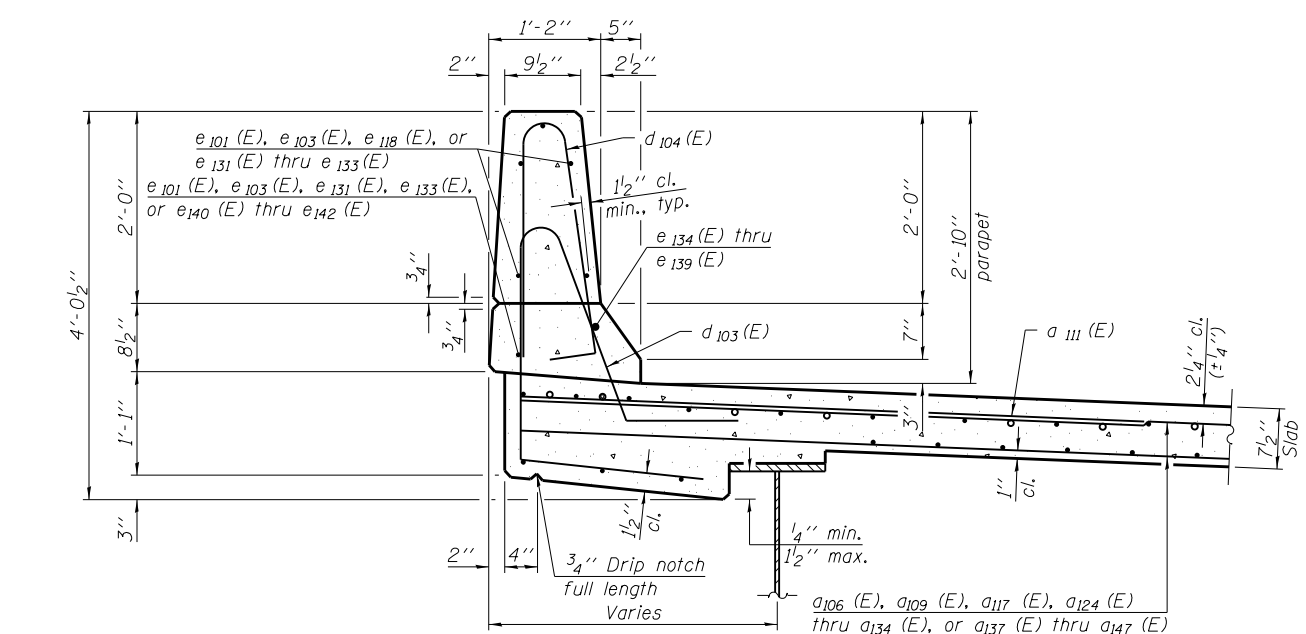


SECTION G-G

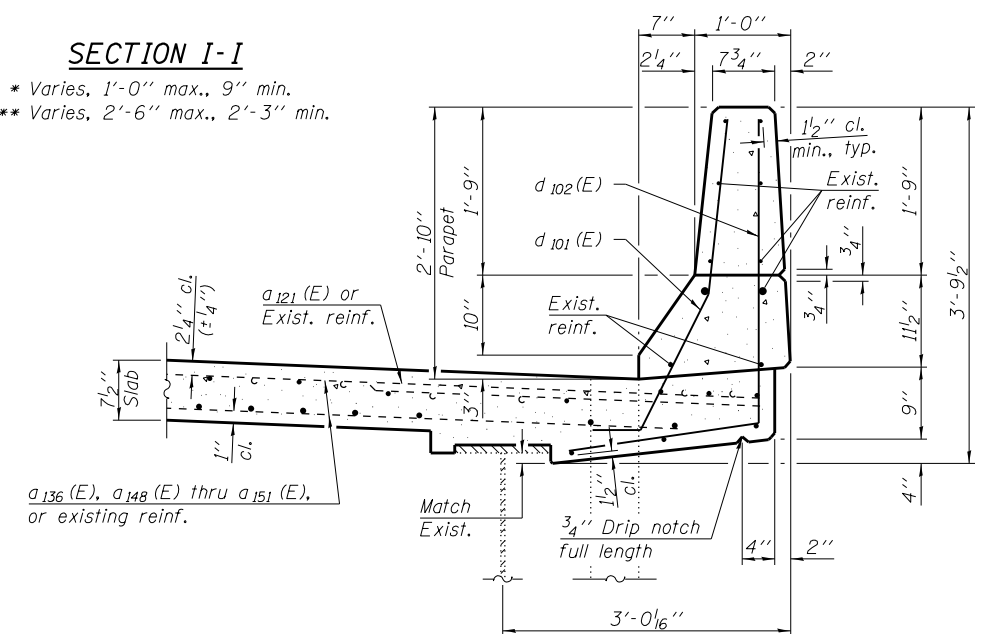


SECTION I-I

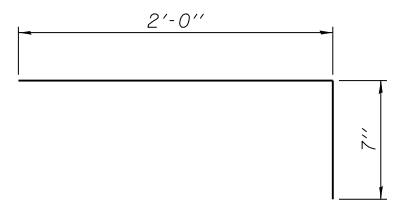
* Varies, 1'-0" max., 9" min.
** Varies, 2'-6" max., 2'-3" min.



SECTION THRU NEW PARAPET



SECTION THRU EXISTING PARAPET



BAR x101 (E)

**SUPERSTRUCTURE
BILL OF MATERIAL**

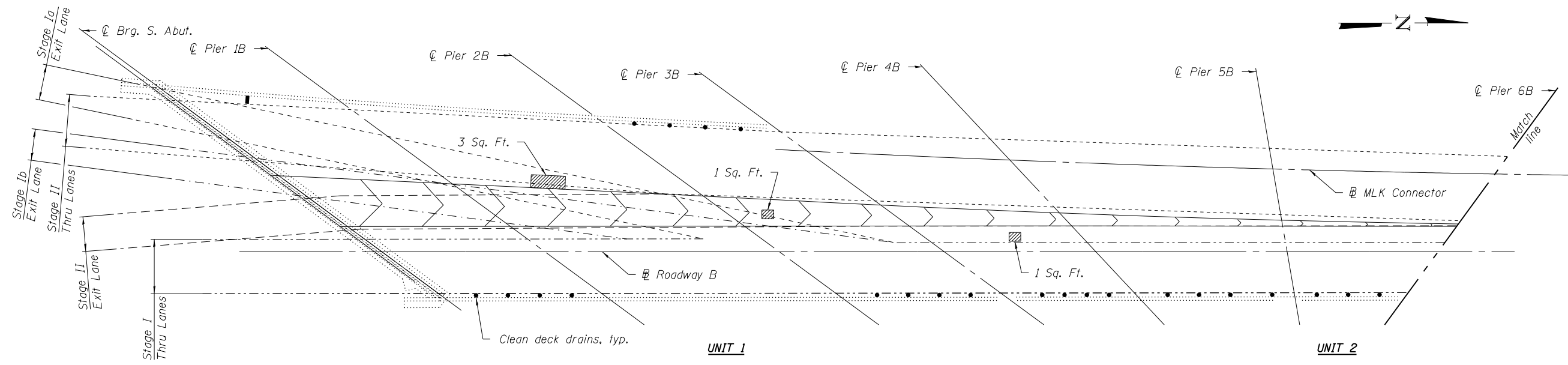
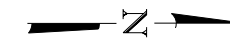
Bar	No.	Size	Length	Shape
a106(E)	38	#6	26'-0"	
a109(E)	12	#6	28'-11"	
a111(E)	209	#6	6'-6"	
a117(E)	300	#6	23'-0"	
a121(E)	2	#6	4'-0"	
a122(E)	3	#6	13'-8"	
a123(E)	12	#6	20'-3"	
a124(E)	57	#6	24'-0"	
a125(E)	45	#6	25'-0"	
a126(E)	36	#6	27'-2"	
a127(E)	32	#6	28'-3"	
a128(E)	29	#6	29'-3"	
a129(E)	27	#6	30'-5"	
a130(E)	25	#6	31'-6"	
a131(E)	23	#6	32'-7"	
a132(E)	22	#6	33'-7"	
a133(E)	20	#6	26'-4"	
a134(E)	12	#6	36'-3"	
a135(E)	4	#6	27'-5"	
a136(E)	4	#6	9'-5"	
a137(E)	24	#6	37'-4"	
a138(E)	24	#6	38'-5"	
a139(E)	22	#6	39'-6"	
a140(E)	20	#6	40'-5"	
a141(E)	16	#6	31'-3"	
a142(E)	4	#5	28'-7"	
a143(E)	12	#5	37'-4"	
a144(E)	12	#5	38'-5"	
a145(E)	11	#5	39'-6"	
a146(E)	9	#5	40'-5"	
a147(E)	6	#5	30'-11"	
a148(E)	6	#6	31'-2"	
a149(E)	3	#5	31'-2"	
a150(E)	8	#6	31'-0"	
a151(E)	3	#5	31'-0"	

**SUPERSTRUCTURE
BILL OF MATERIAL**

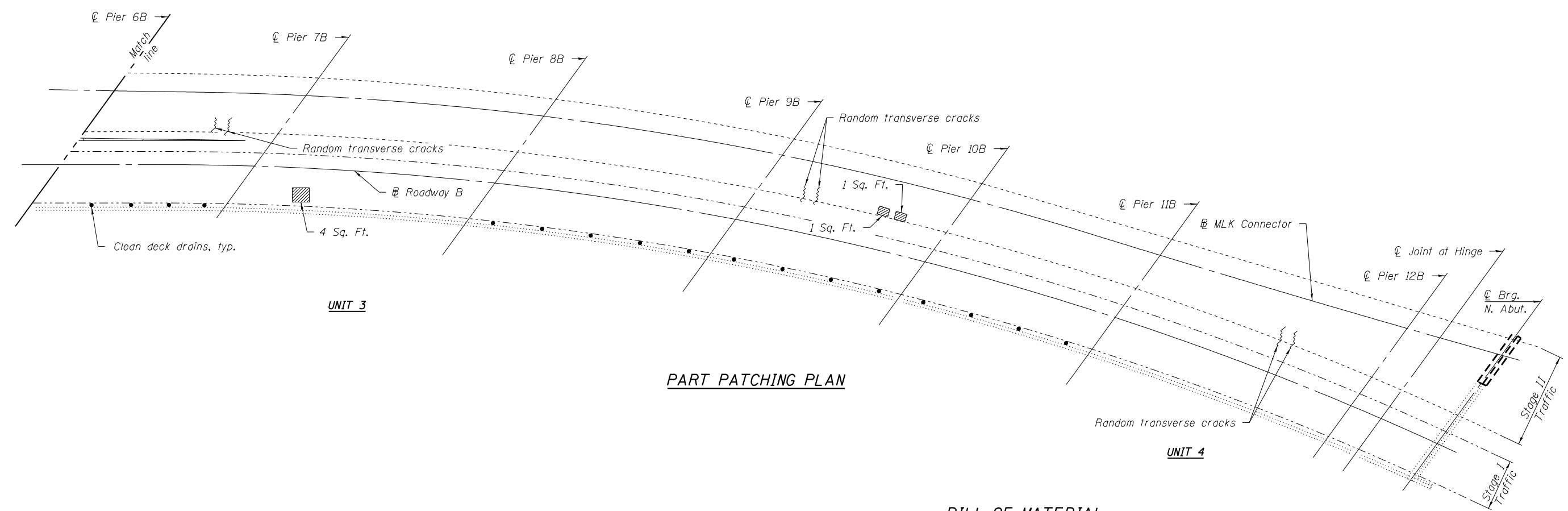
Bar	No.	Size	Length	Shape
b103(E)	2	#5	26'-7"	
b105(E)	4	#5	28'-10"	
b108(E)	2	#5	27'-5"	
b109(E)	390	#5	27'-8"	
b110(E)	111	#6	27'-3"	
b111(E)	37	#6	25'-0"	
b112(E)	275	#5	25'-5"	
b113(E)	15	#5	28'-6"	
b114(E)	45	#5	29'-11"	
b115(E)	5	#5	26'-3"	
b116(E)	4	#5	25'-11"	
b117(E)	3	#5	29'-5"	
b118(E)	3	#5	24'-9"	
b119(E)	2	#5	16'-9"	
b120(E)	6	#5	22'-4"	
b121(E)	3	#5	24'-8"	
b122(E)	2	#5	19'-0"	
b123(E)	1	#5	19'-5"	
b124(E)	88	#5	18'-6"	
b125(E)	150	#5	13'-5"	
d101(E)	12	#5	3'-11"	
d102(E)	12	#4	5'-2"	
d103(E)	307	#5	8'-0"	
d104(E)	307	#5	5'-7"	
e101(E)	8	#4	11'-9"	
e103(E)	14	#4	16'-3"	
e118(E)	35	#4	15'-9"	
e131(E)	16	#4	19'-9"	
e132(E)	35	#4	19'-4"	
e133(E)	8	#4	16'-10"	
e134(E)	3	#8	30'-2"	
e135(E)	2	#8	19'-9"	
e136(E)	4	#8	28'-5"	
e137(E)	1	#8	11'-9"	
e138(E)	1	#8	16'-10"	
e139(E)	1	#8	32'-9"	
e140(E)	4	#4	21'-6"	
e141(E)	4	#4	26'-0"	
e142(E)	2	#4	17'-5"	
x101(E)	89	#5	2'-7"	
Concrete Removal		Cu. Yd.	147.0	
Reinforcement Bars, Epoxy Coated		Pound	76,020	
Concrete Superstructure		Cu. Yd.	253.2	
Bar Splicers		Each	21	

Notes:
For d101(E) and d102(E) bar bending diagrams, see sheet 32 of 143.
For d103(E) and d104(E) bar bending diagrams, see sheet 36 of 143.

Partial Depth Patch



PART PATCHING PLAN

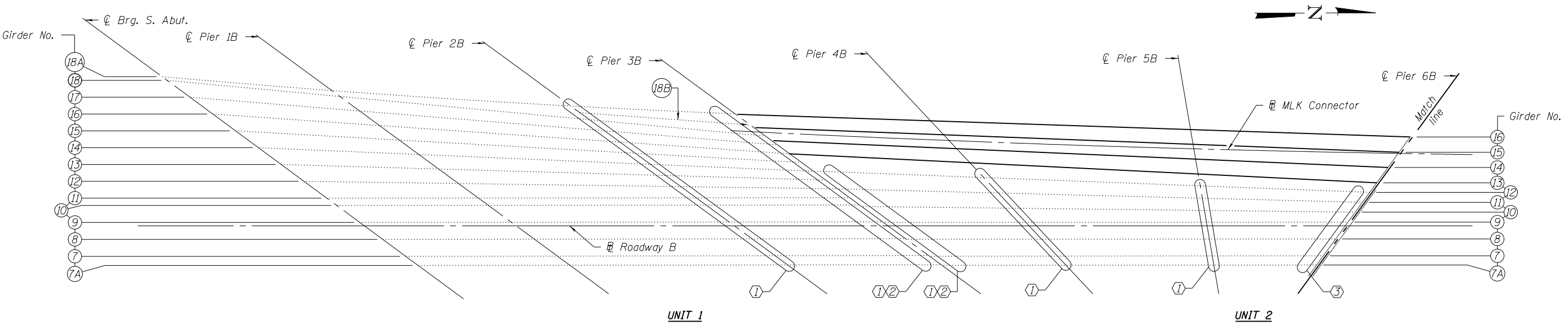


PART PATCHING PLAN

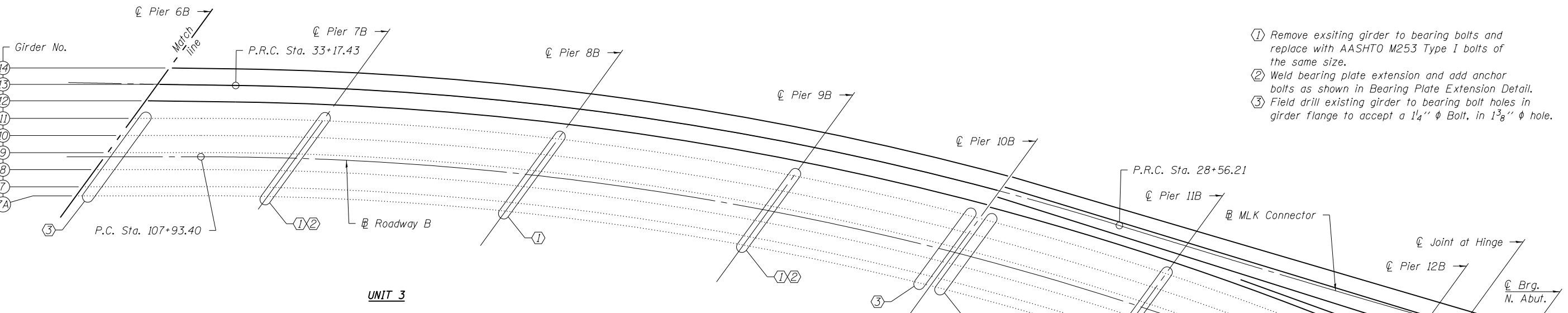
BILL OF MATERIAL

Item	Unit	Total
Cleaning Bridge Scuppers and Downspouts	Each	41
Bridge Deck Concrete Crack Sealer	Foot	122
Deck Slab Repair (Partial)	Sq. Yd.	1.2

Note: For Stage Traffic Layout, see sheets 9 thru 13 of 143.



PART PLAN

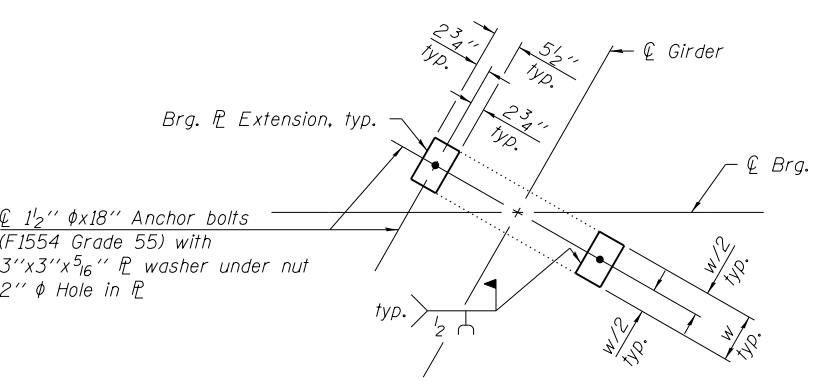


PART PLAN

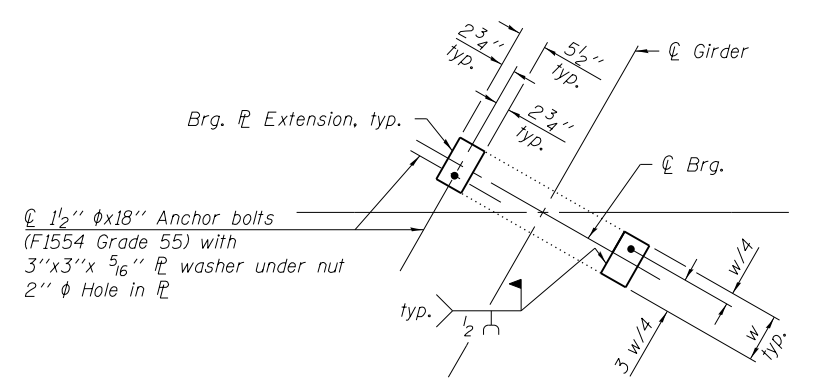
BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1 1/2"	Each	68

- ① Remove existing girder to bearing bolts and replace with AASHTO M253 Type I bolts of the same size.
- ② Weld bearing plate extension and add anchor bolts as shown in Bearing Plate Extension Detail.
- ③ Field drill existing girder to bearing bolt holes in girder flange to accept a 1 1/4" ϕ Bolt, in 1 3/8" ϕ hole.

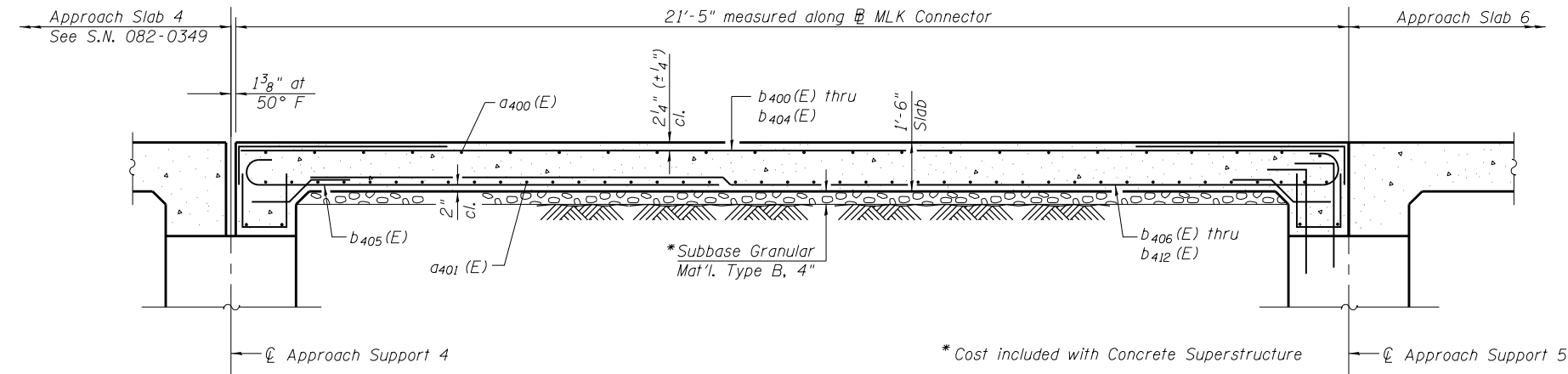


**BEARING PLATE EXTENSION DETAIL
PIERS 7 & 9**

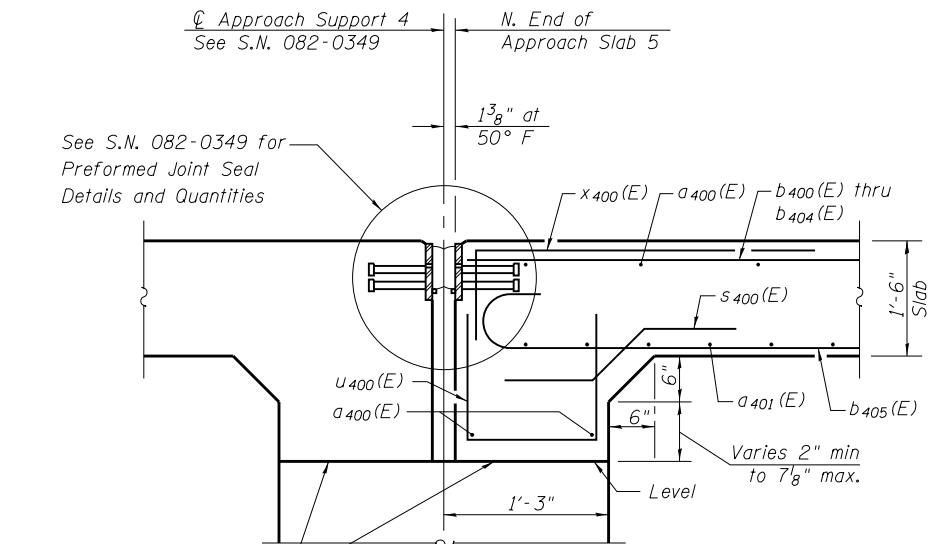


**BEARING PLATE EXTENSION DETAIL
PIER 3**

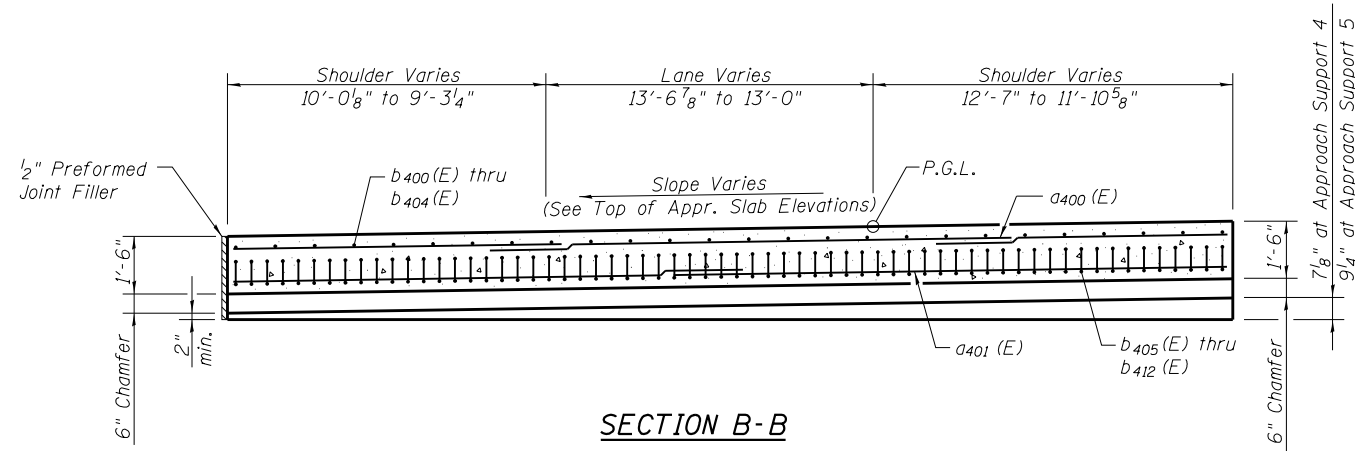
Notes:
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade and diameter specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts shall be installed in holes drilled after bearing plate extensions have been welded to existing bearings. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 The structural steel plates of the bearing plate extensions shall conform to the requirements of AASHTO M270 Grade 50.
 Dimension "w" to match the width of the existing bearing plate. Contractor to field measure existing widths.
 Bearing plate extension thickness to equal existing bearing plate plus shims. Contractor to field measure existing thickness.
 Cost of bearing extension included with Furnishing and Erecting Structural Steel.



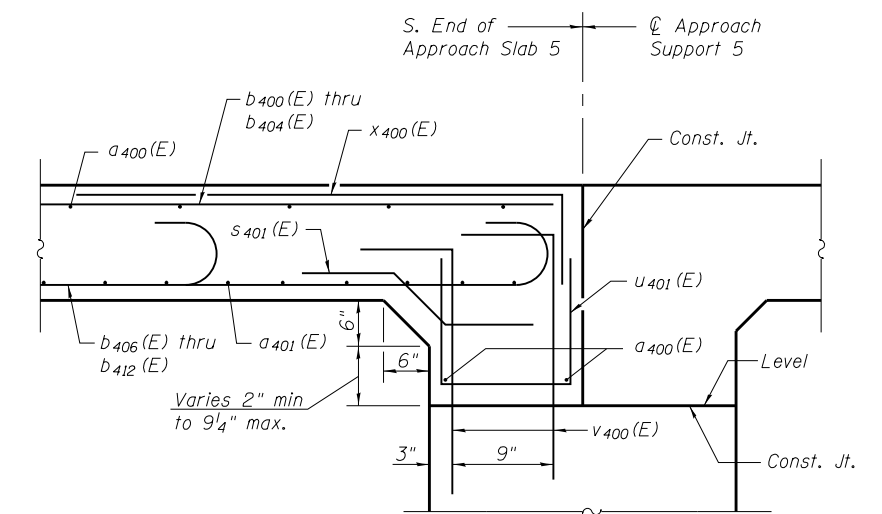
SECTION A-A



VIEW C-C



SECTION B-B

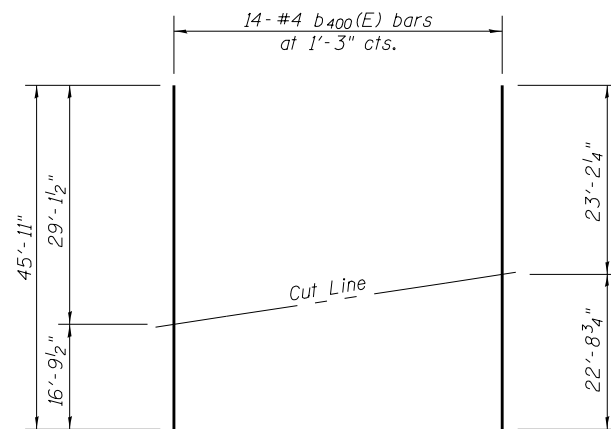


VIEW D-D

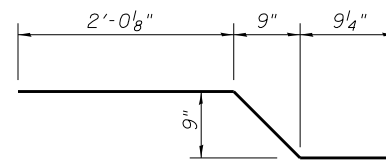
Notes:
 See sheet 52 of 143 for Bar Bend Details, Field Cutting Diagram and Bill of Material.
 See sheet 123 of 143 for v400(E) Bar Details.

082000-76009-051-Slab 55 Details 2.dgn

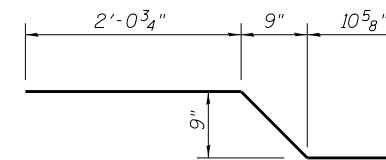
FILE NAME : 1928 S.A. BRADLEY BL. SMITH DRIVE TROY, IL 61865-6234 PHONE (618) 661-1400	USER NAME = bbovee Illinois Design Firm Number 184,001670 PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - BB CHECKED - JD DRAWN - WS CHECKED - CJF	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	APPROACH SLAB 5 DETAILS STRUCTURE NO. 082-0010	F.A.I. R.T.E. = 64 SECTION = 82-1,41B-1 COUNTY = ST. CLAIR TOTAL SHEETS = 406 SHEET NO. = 243 CONTRACT NO. 76G09	ILLINOIS FED. AID PROJECT
	SHEET NO. 51 OF 143 SHEETS						



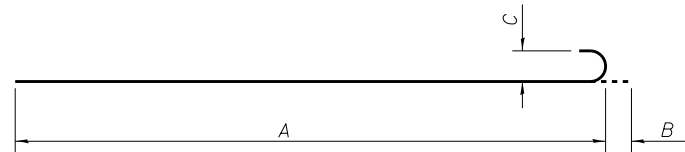
FIELD CUTTING DIAGRAM



BAR S400(E)



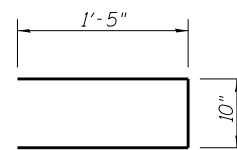
BAR S401(E)



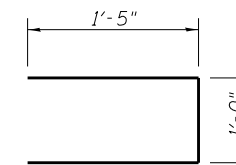
BARS

DIMENSIONS

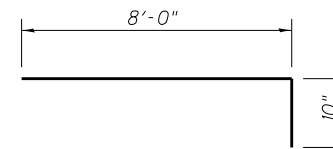
Bar	A	B	C
b 405 (E)	10'-9"	1'-3"	11 3/4"
b 406 (E)	14'-8"	1'-3"	11 3/4"
b 407 (E)	16'-8"	1'-3"	11 3/4"
b 408 (E)	18'-11"	1'-3"	11 3/4"
b 409 (E)	21'-0"	1'-3"	11 3/4"
b 410 (E)	23'-3"	1'-3"	11 3/4"
b 411 (E)	25'-4"	1'-3"	11 3/4"
b 412 (E)	27'-2"	1'-3"	11 3/4"



BAR U400(E)



BAR U401(E)

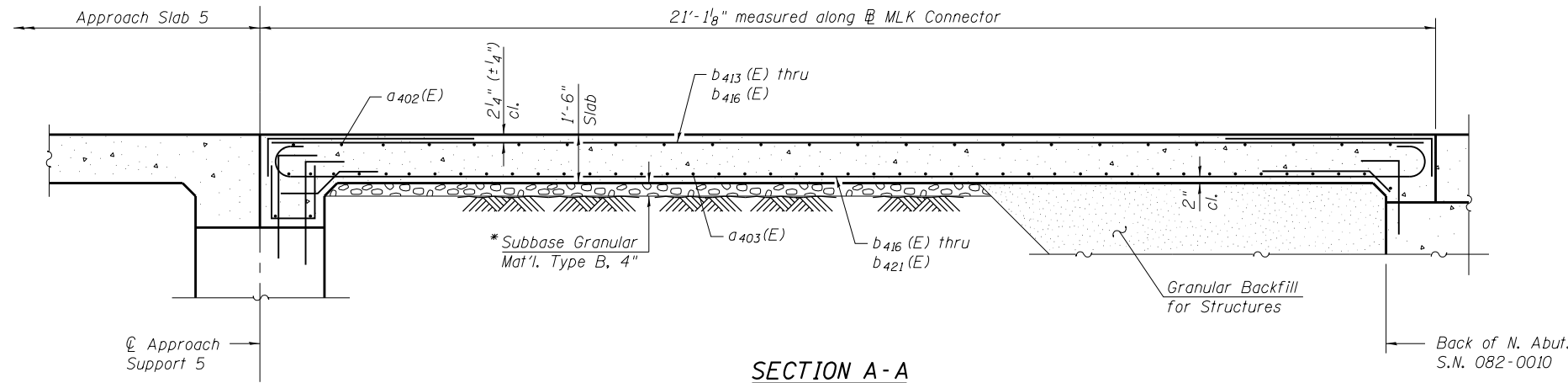


BAR X400(E)

**APPROACH SLAB 5
BILL OF MATERIAL**

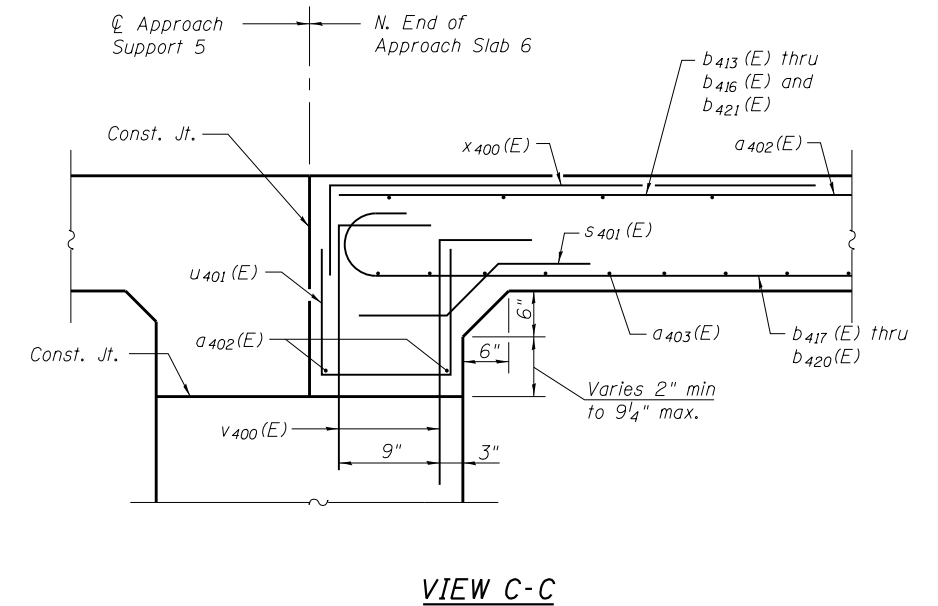
Bar	No.	Size	Length	Shape
a 400 (E)	87	#4	13'-4"	—
a 401 (E)	94	#5	19'-3"	—
b 400 (E)	14	#4	45'-11"	—
b 401 (E)	1	#4	27'-10"	—
b 402 (E)	1	#4	21'-0"	—
b 403 (E)	1	#4	16'-8"	—
b 404 (E)	2	#4	8'-7"	—
b 405 (E)	73	#9	12'-0"	—
b 406 (E)	2	#9	15'-11"	—
b 407 (E)	12	#9	17'-11"	—
b 408 (E)	12	#9	20'-2"	—
b 409 (E)	12	#9	22'-3"	—
b 410 (E)	13	#9	24'-6"	—
b 411 (E)	12	#9	26'-7"	—
b 412 (E)	11	#9	28'-5"	—
s 400 (E)	38	#5	3'-10"	—
s 401 (E)	35	#5	4'-0"	—
u 400 (E)	38	#5	3'-8"	—
u 401 (E)	35	#5	3'-10"	—
x 400 (E)	57	#5	8'-10"	—
Concrete Superstructure			Cu. Yd.	50.2
Reinforcement Bars, Epoxy Coated			Pound	13,040

082000-76009-052-5100_S5_Details_3.dgn

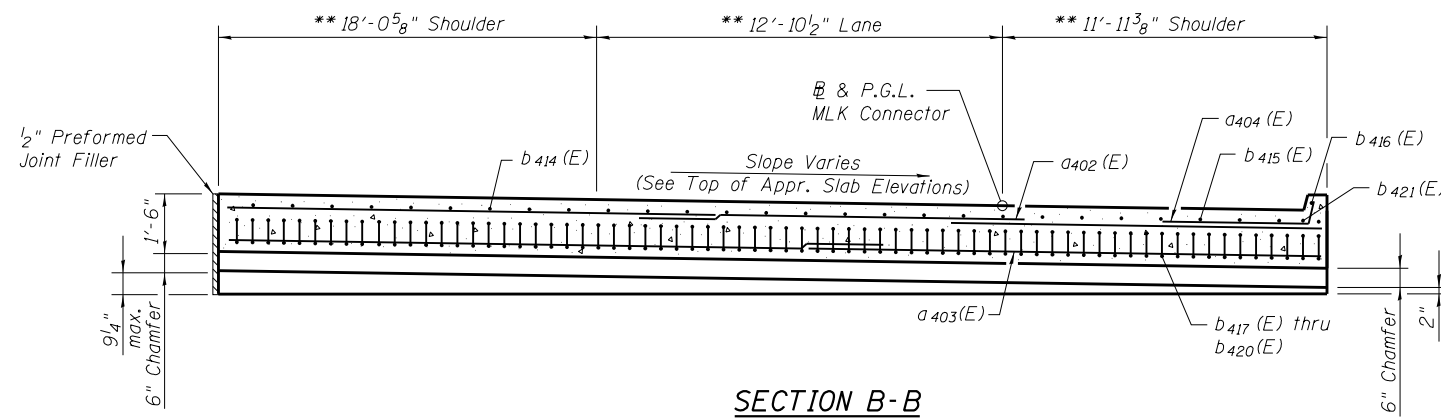


SECTION A-A

* Cost included with Concrete Superstructure

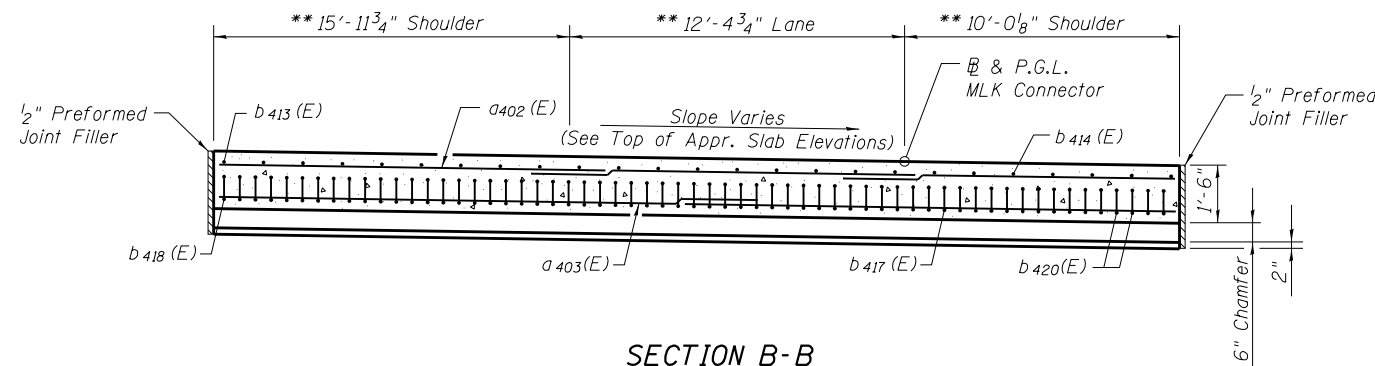


VIEW C-C



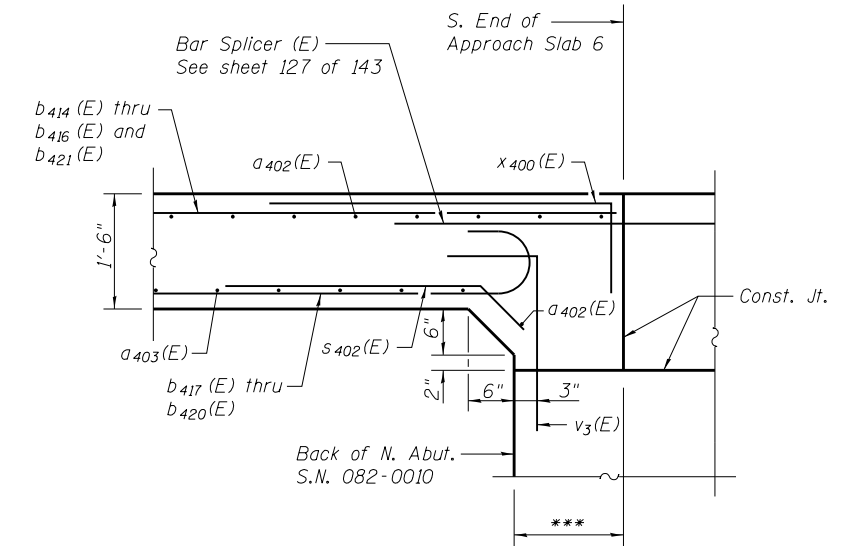
SECTION B-B

(Near Approach Support 5)



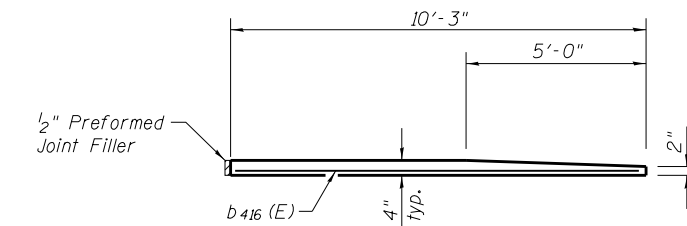
SECTION B-B

(Near Back of Abutment)



VIEW D-D

*** 1'-0" on widened S.N. 082-0010 N. Abut. and 6" on existing S.N. 082-0010 N. Abut.



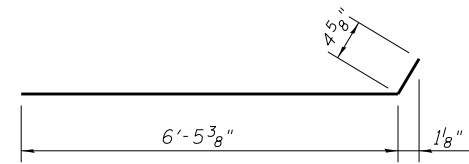
VIEW E-E

** Dimensions shown at Rt L's from the P.G.L. to the intersection of the ϕ of Support.

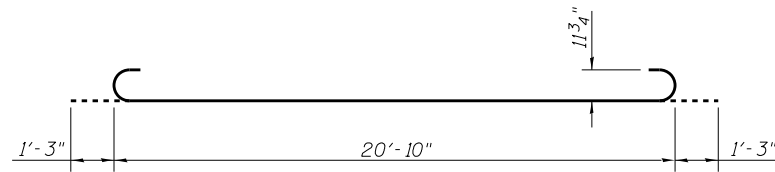
Notes:
See sheet 96 of 143 for v₃(E) Bar Details.
See sheet 123 of 143 for v₄₀₀(E) Bar Details.
See sheet 6 of 143 for Granular Backfill for Structures and Drainage Treatment Details.

082000-7609-054-Slab 56 Details 2.dgn

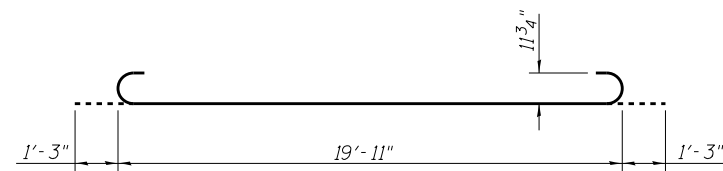
FILE NAME : 1928 S.A. BRADLEY R. SMITH DRIVE TROY, ILLINOIS 61864 PHONE (618) 661-1400	USER NAME = bbovee Illinois Design Firm Number 184.001670 PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - BB CHECKED - JD DRAWN - WS CHECKED - CJF	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	APPROACH SLAB 6 DETAILS STRUCTURE NO. 082-0010 SHEET NO. 54 OF 143 SHEETS	F.A.I. R.T.E. = 64 SECTION = 82-1(A)B-1 COUNTY = ST. CLAIR TOTAL SHEETS = 406 SHEET NO. = 246 CONTRACT NO. 76G09	ILLINOIS FED. AID PROJECT



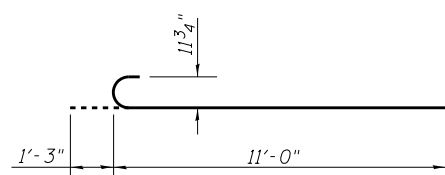
BAR a404(E)



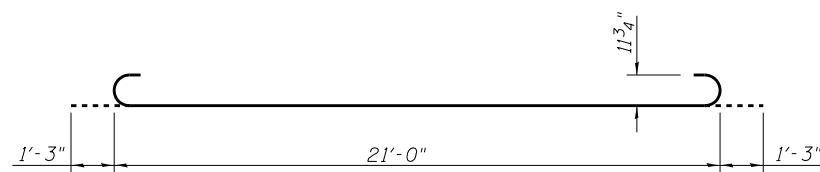
BAR b417(E)



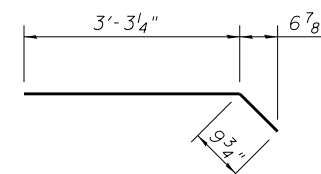
BAR b418(E)



BAR b419(E)



BAR b420(E)



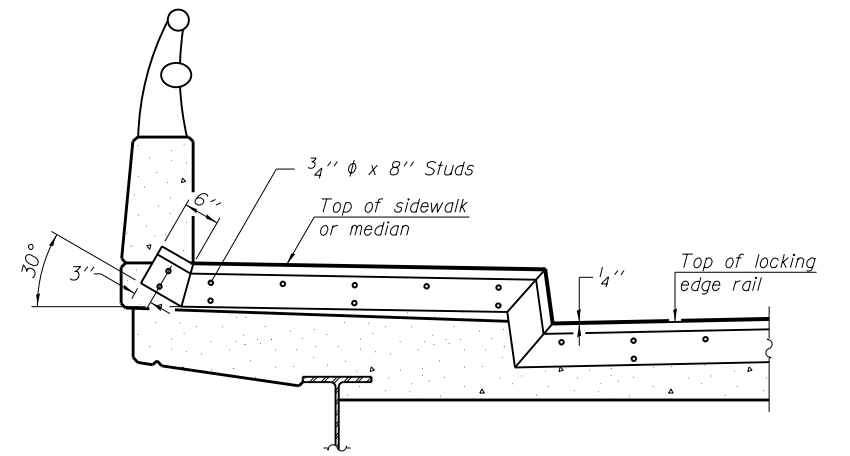
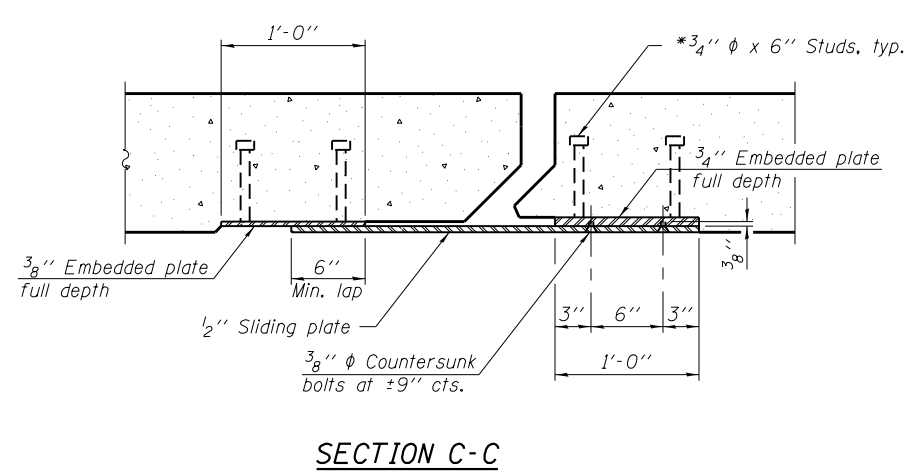
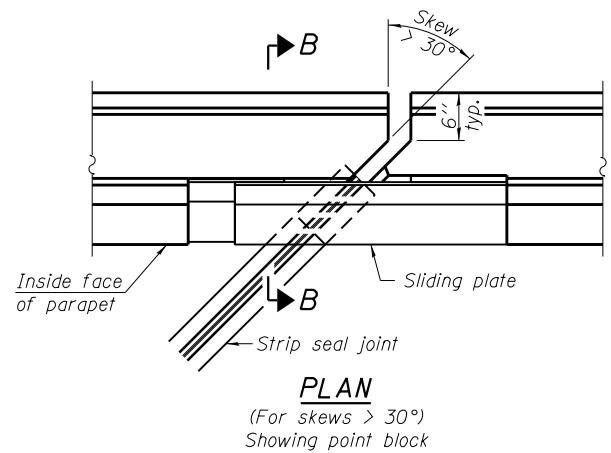
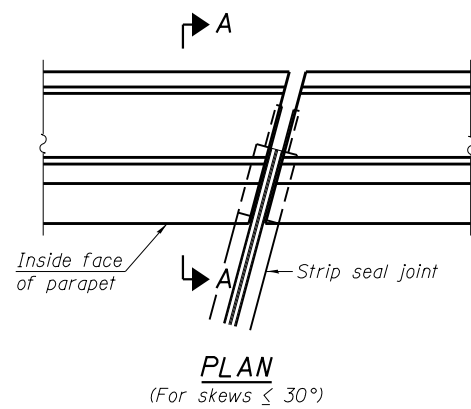
BAR s402(E)

Notes:
 See sheet 96 of 143 for v₃(E) Bar Details.
 See sheet 52 of 143 for additional Bar Bend Details.
 See sheet 125 of 143 for Bar Splicer Details.

**APPROACH SLAB 6
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a402(E)	63	#4	16'-4"	—
a403(E)	66	#5	23'-9"	—
a404(E)	9	#4	6'-10"	—
b413(E)	3	#4	20'-0"	—
b414(E)	30	#4	20'-10"	—
b415(E)	1	#4	21'-1"	—
b416(E)	2	#4	10'-0"	—
b417(E)	76	#9	23'-4"	—
b418(E)	3	#9	22'-5"	—
b419(E)	3	#9	12'-3"	—
b420(E)	2	#9	23'-6"	—
b421(E)	2	#4	10'-3"	—
s401(E)	44	#5	4'-0"	—
s402(E)	39	#5	4'-1"	—
u401(E)	44	#5	3'-10"	—
x400(E)	64	#5	8'-10"	—
Concrete Superstructure			Cu. Yd.	50.8
Reinforcement Bars, Epoxy Coated			Pound	10,530

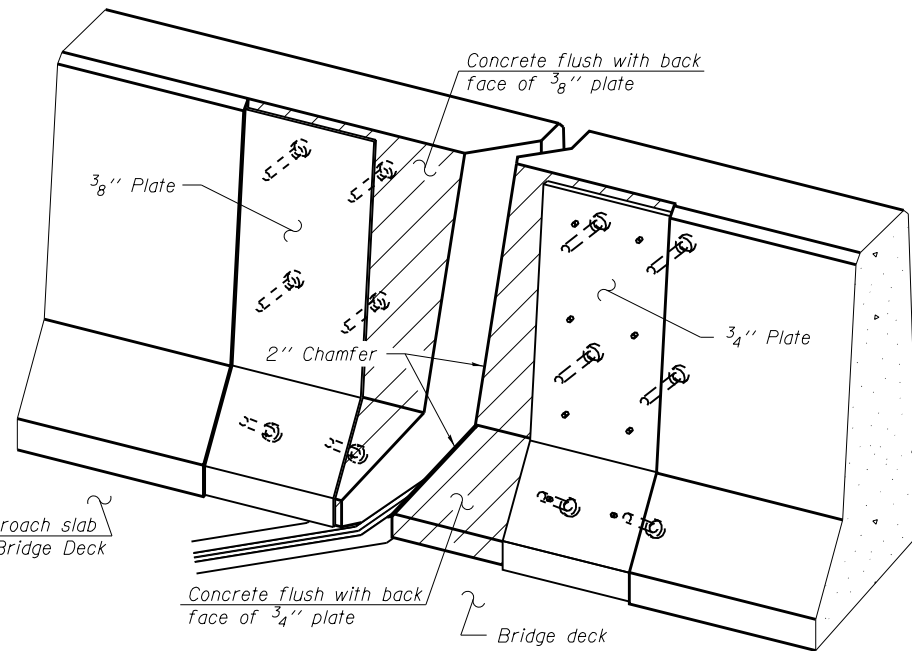
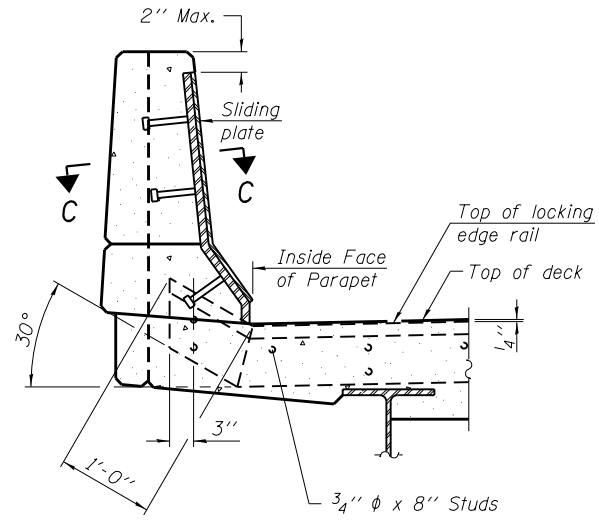
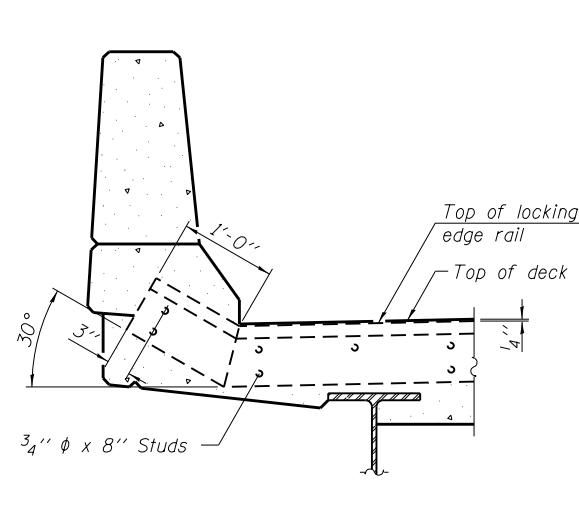
08200076009-055-Slab_S6_Details_3.dgn



TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN
 Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TABLE OF VARIABLE DIMENSIONS

	"A"	"B"	"C"
S. Abut.	1 1/2"	2"	2 3/4"
Pier 3B	1 1/2"	2"	2 3/4"
Q Hinge	1 1/2"	2"	2 3/4"
N. Abut.	1 1/2"	2"	2 3/4"

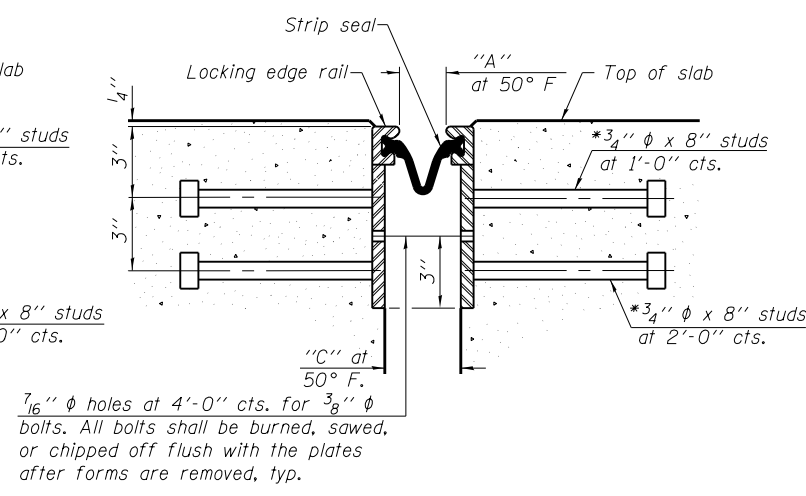
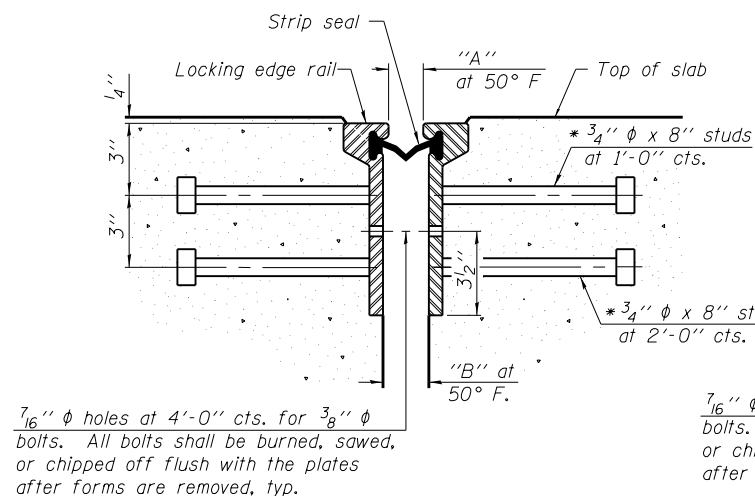


Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
 The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.
 The manufacturer's recommended installation methods shall be followed.
 The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.
 Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

SECTION A-A

SECTION B-B

TRIMETRIC VIEW (Showing back plates only)



SECTION THRU ROLLED RAIL JOINT

SECTION THRU WELDED RAIL JOINT

ROLLED EXTRUDED RAIL

WELDED RAIL

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
 Rolled rail shown, welded rail similar.

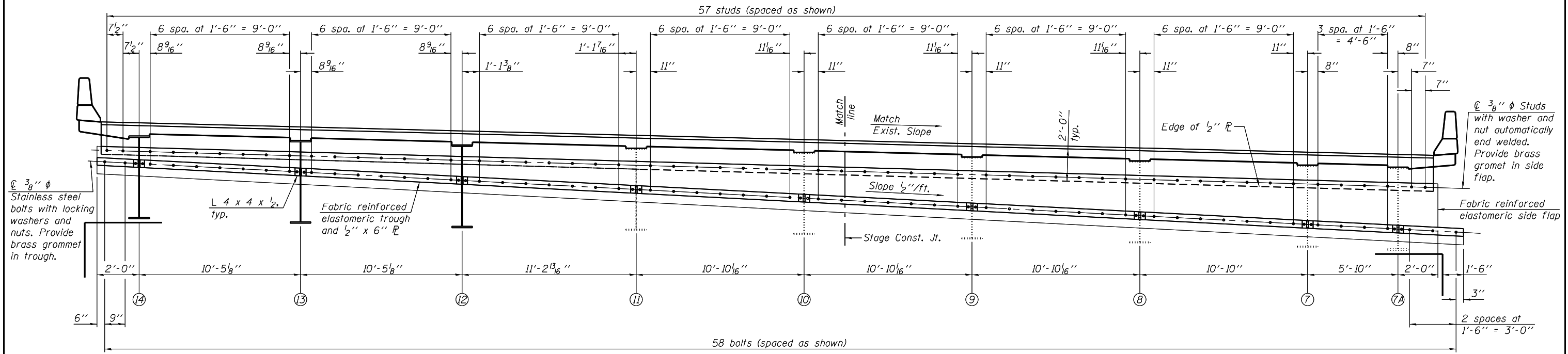
*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAILS

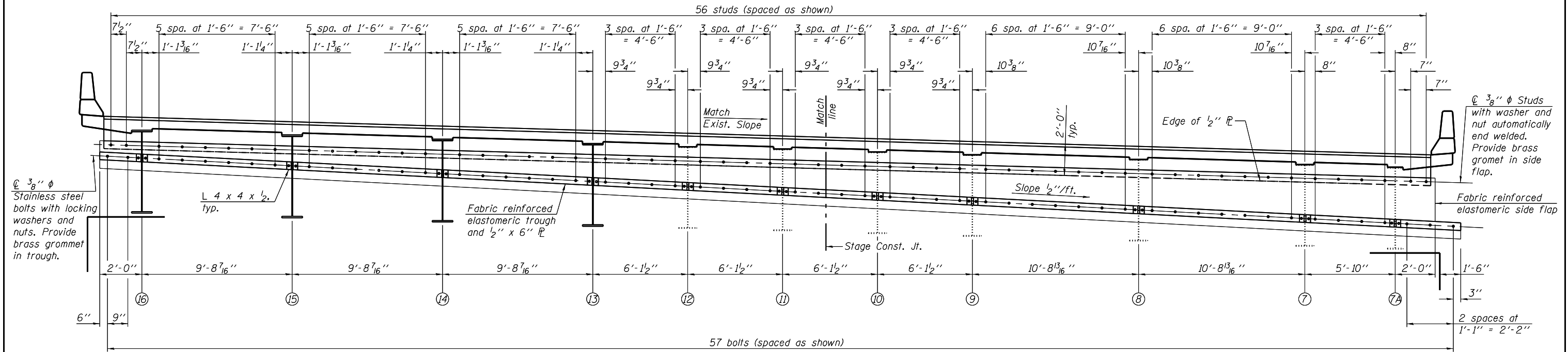
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	483

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



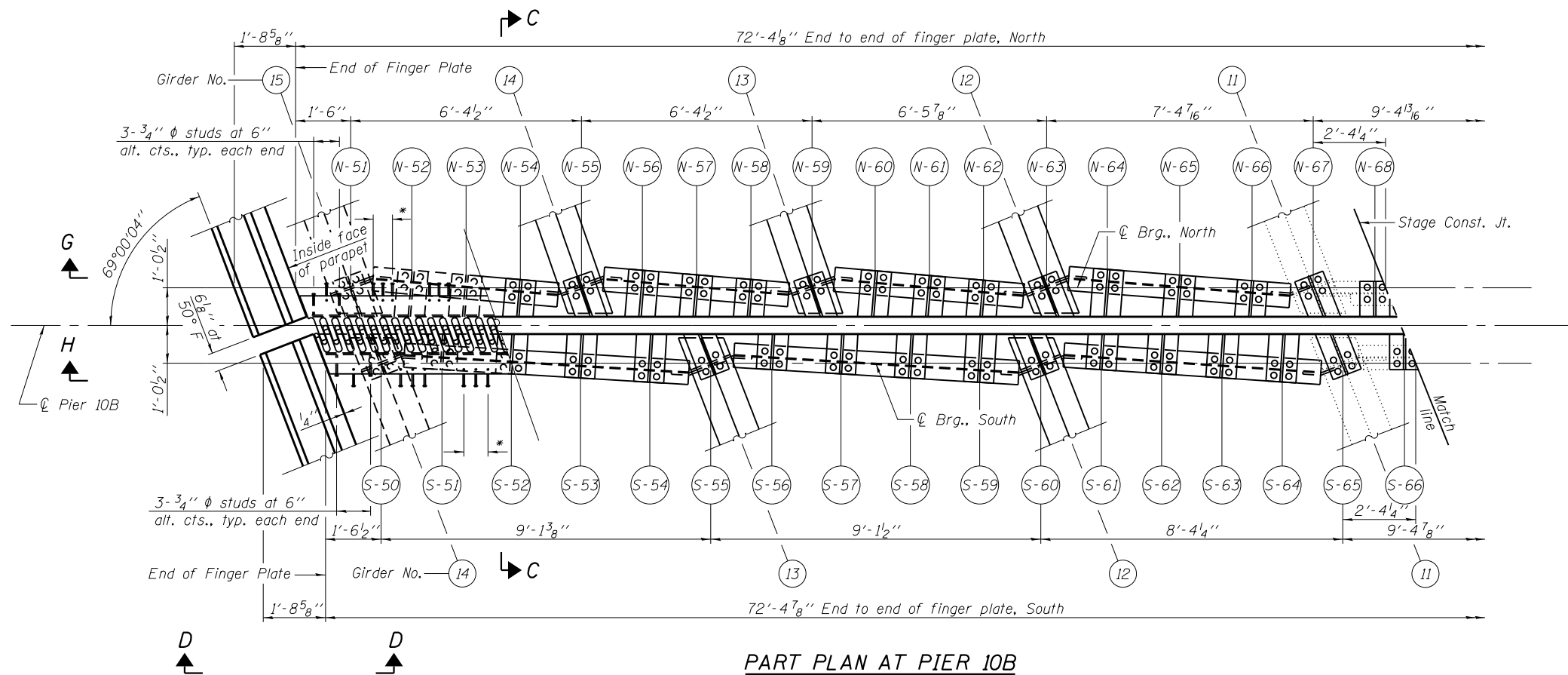
SECTION A-A



SECTION B-B

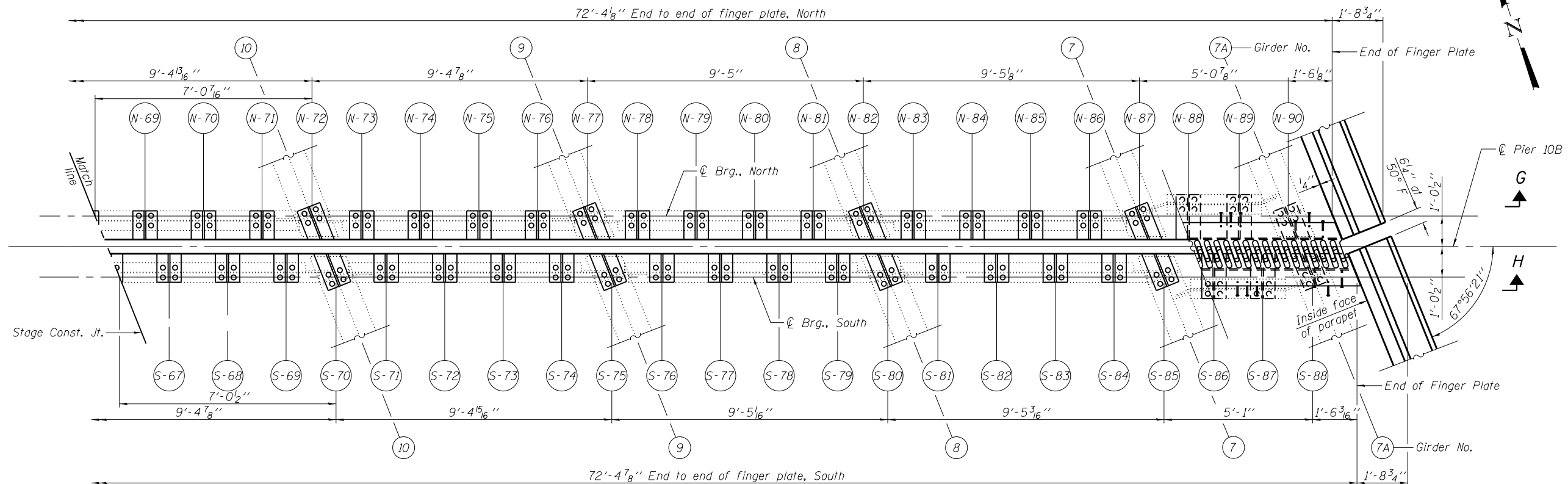
Notes:
 For locations of Sections A-A and B-B, see sheet 57 of 143.
 Bolt spacing = stud spacing, except as shown.

FILE NAME = X:\1309400-MLK\Cad\SV082000-76009.dgn USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - T.S. Friederich	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FINGER PLATE EXPANSION DEVICE STRUCTURE NO. 082-0010	F.A.I. R.E. = 64	SECTION = 82-1,41B-1	COUNTY = ST. CLAIR	TOTAL SHEETS = 406	SHEET NO. = 250
	CHECKED - K.A. Klues	REVISED			CONTRACT NO. 76C09				
	DRAWN - C.A. Buettner	REVISED			ILLINOIS FED. AID PROJECT				
CHECKED - J.J. Derner	REVISED	SHEET NO. 58 OF 143 SHEETS							



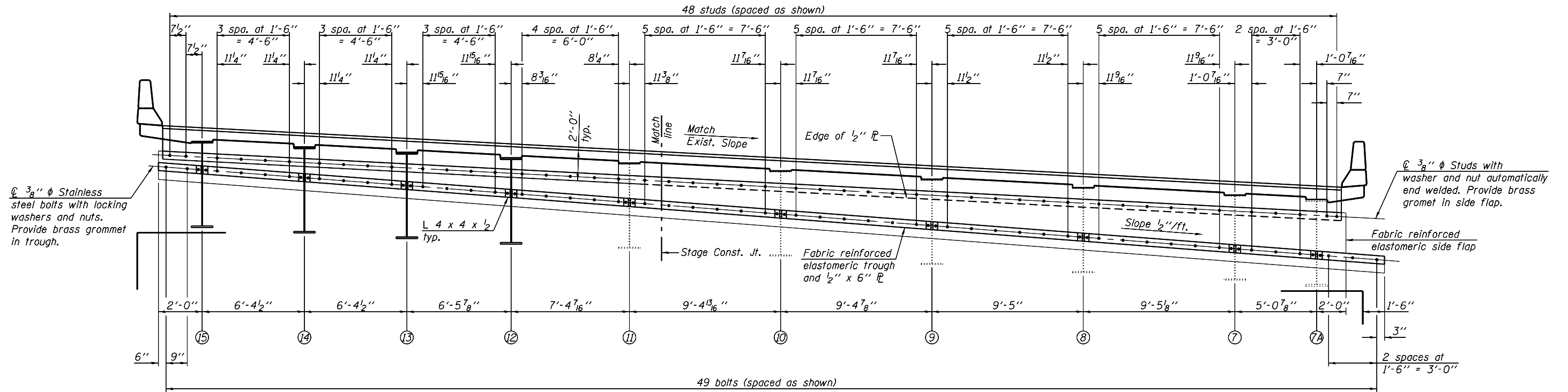
PART PLAN AT PIER 10B

* 3-3/4" φ studs evenly spaced between stools, typ.

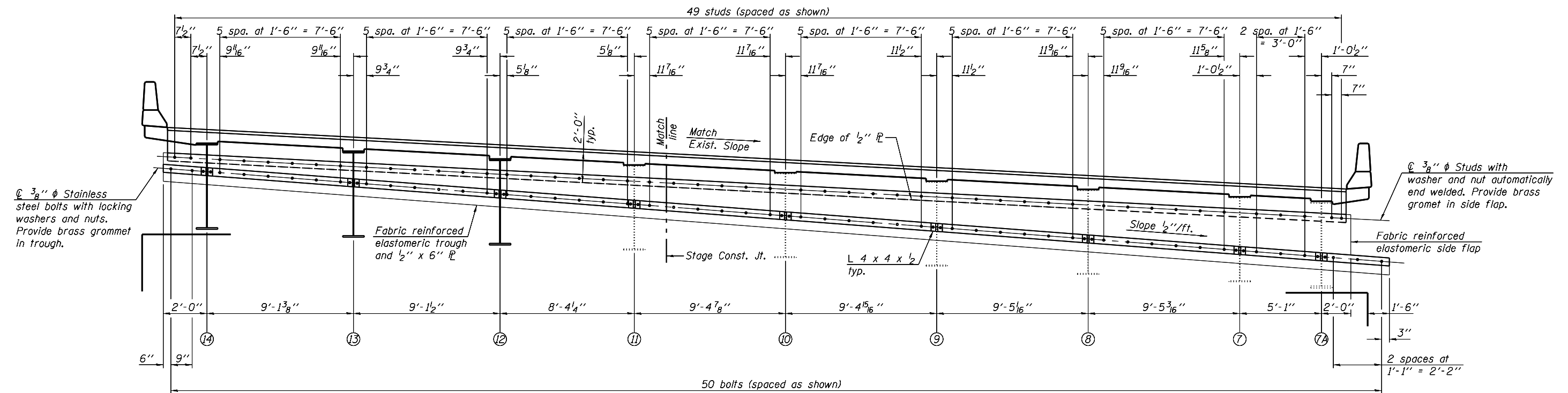


PART PLAN AT PIER 10B

Notes:
 For stool spacing, see sheet 63 of 143.
 For Sections G-G and H-H, see sheet 60 of 143.
 For Section C-C, see sheet 61 of 143.
 For Section D-D, see sheet 62 of 143.



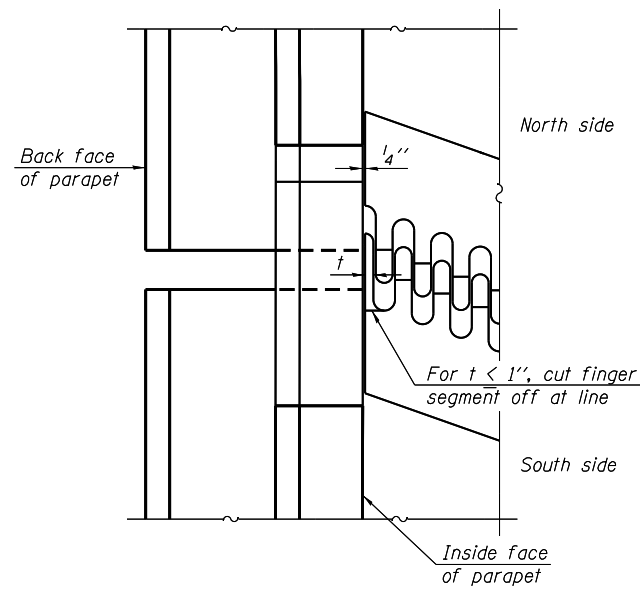
SECTION G-G



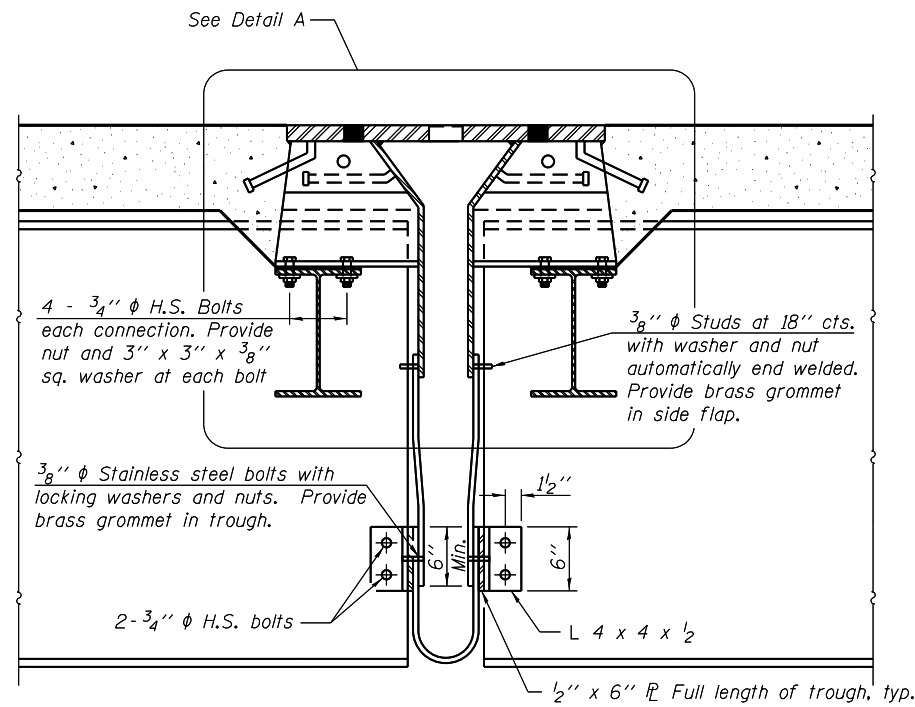
SECTION H-H

Notes:
 For locations of Sections G-G and H-H, see sheet 59 of 143.
 Bolt spacing = stud spacing, except as shown.

FILE NAME = X:\1309400-MLK\Cad\SV\082000-76609.dgn 	DESIGNED - T.S. Friederich	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FINGER PLATE EXPANSION DEVICE STRUCTURE NO. 082-0010	F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
	USER NAME = elagemann	CHECKED - K.A. Klues			REVISED	64	82-1,41B-1	ST. CLAIR	406	252	
	PLOT SCALE =	DRAWN - C.A. Buettner			REVISED	CONTRACT NO. 76609					
	PLOT DATE = 8/7/2014	CHECKED - J.J. Derner			REVISED	ILLINOIS FED. AID PROJECT					

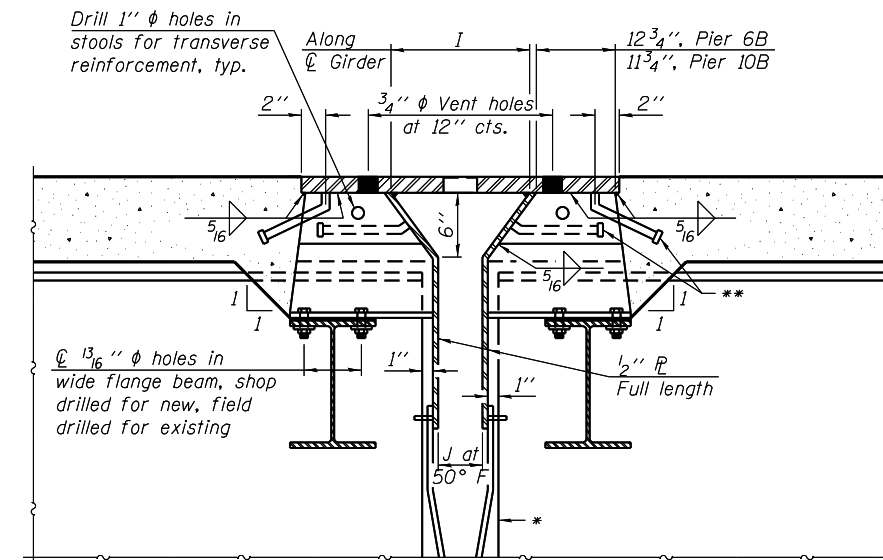


VIEW E-E



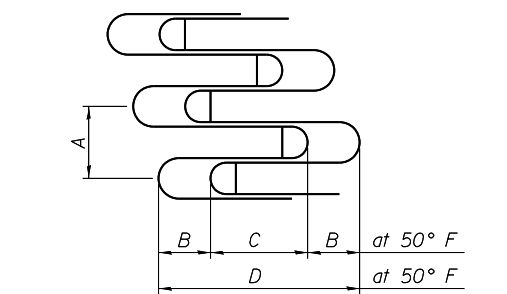
SECTION C-C

Note:
Field drill holes into existing girders for stools and trough attachment.

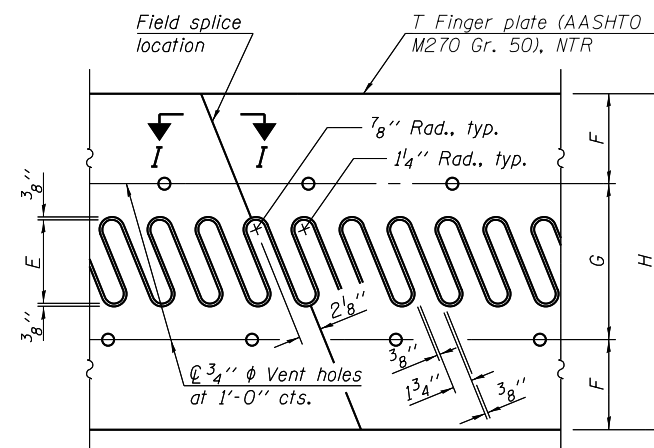


DETAIL A

* Cut end of girder parallel to skew.
** 3/4 inch diameter x 8 inch granular or solid flux filled headed studs

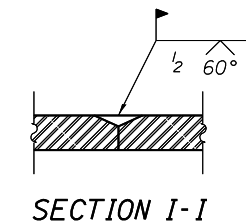


FINGER PLATE SETTING DIAGRAM

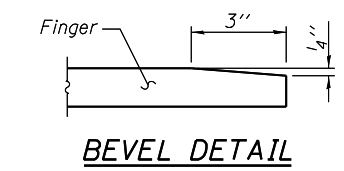


FLAME CUTTING DIAGRAM

"NTR" denotes plates to which notch toughness requirements are applicable.



SECTION I-I

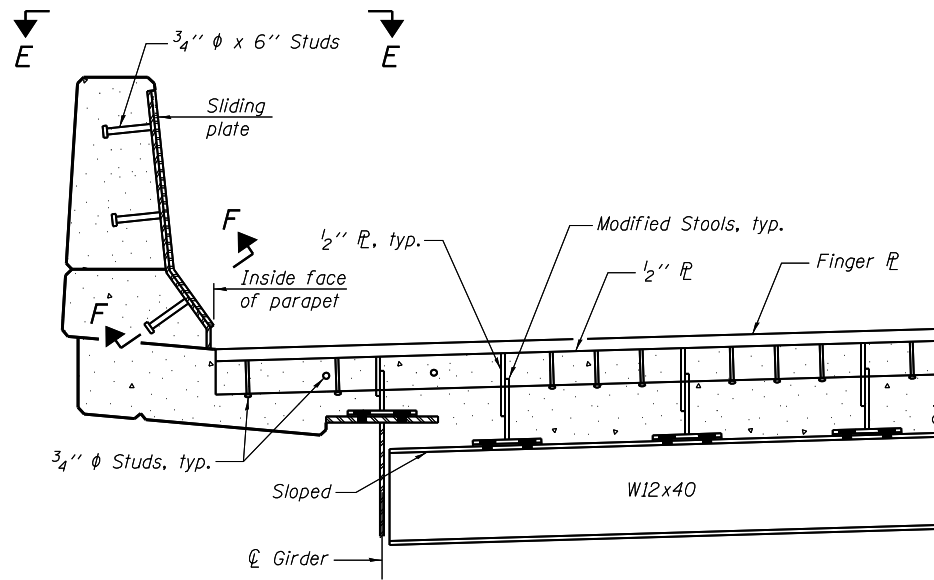


BEVEL DETAIL

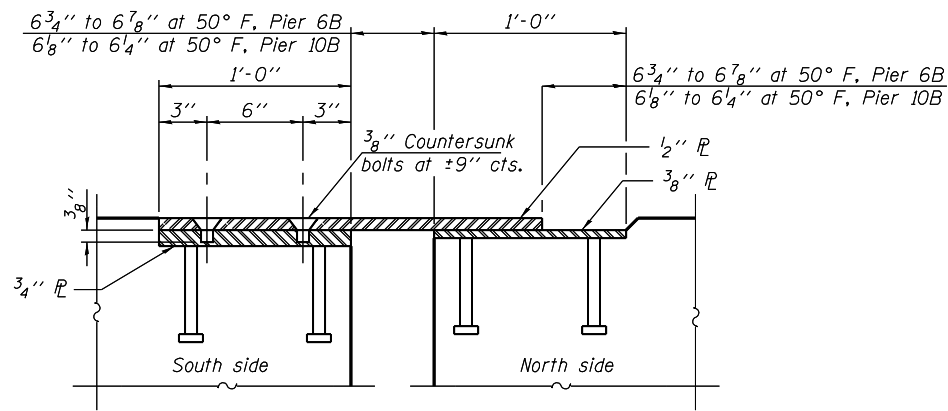
TABLE OF VARIABLE DIMENSIONS

Location	A	B	C	D	E	F	G	H	I	J	T
Pier 6B	4 1/4"	3 3/4"	7 3/4"	15 1/4"	9 5/8"	11 1/4"	1'-4"	3'-2 1/2"	16 1/2"	5 1/2"	2 1/4"
Pier 10B	4 1/4"	3 3/4"	6"	13 1/2"	8 5/8"	10 1/4"	1'-2 7/8"	2'-11 3/8"	14 3/4"	5 3/4"	2"

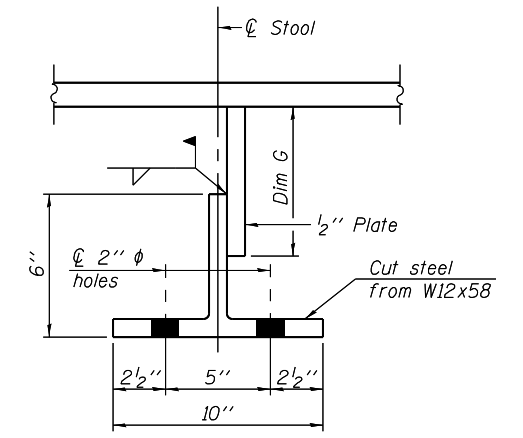
Notes:
Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
For location of Section C-C, see sheets 57 and 59 of 143.
For location of view E-E, see sheet 62 of 143.



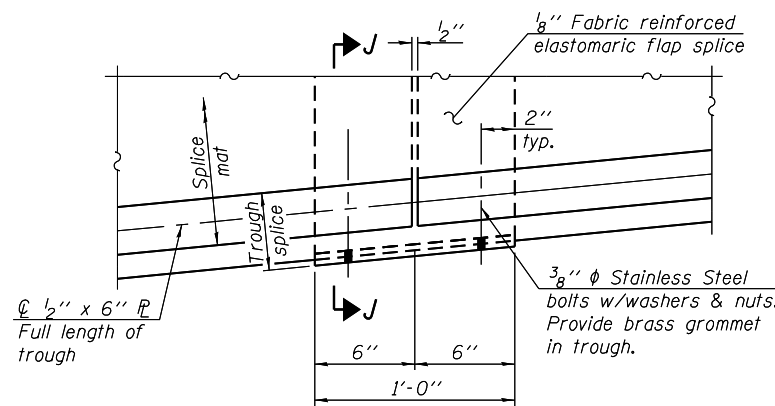
SECTION D-D



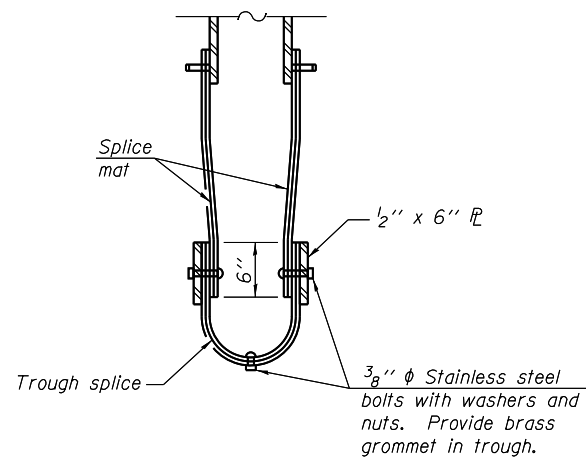
SECTION F-F



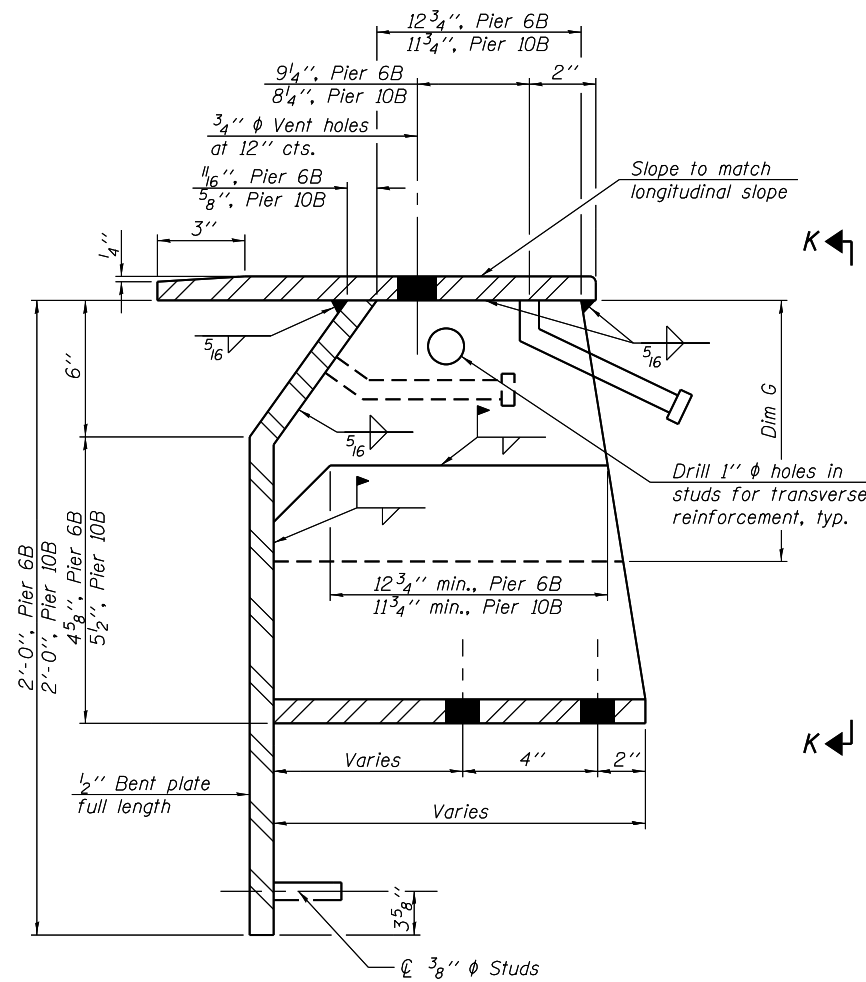
VIEW K-K



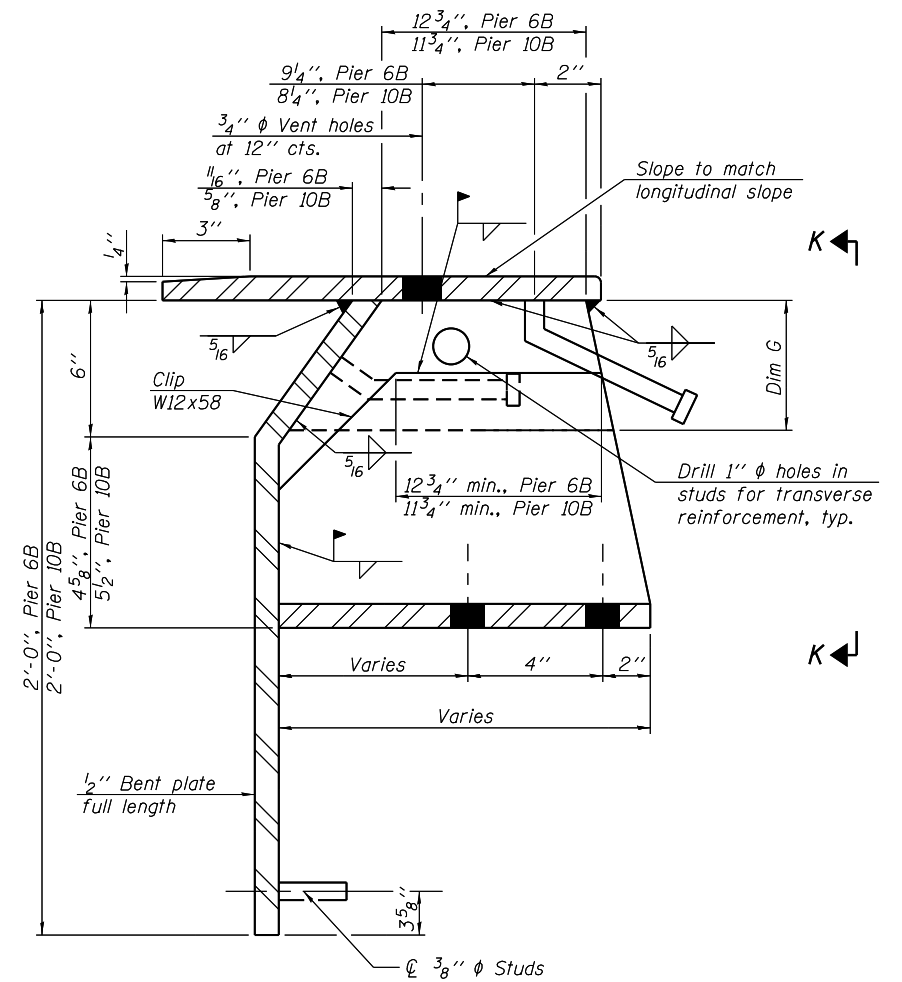
TROUGH SPLICE DETAIL



SECTION J-J



MODIFIED STOOL DETAIL AT W12x40



MODIFIED STOOL DETAIL AT GIRDER

Notes:
For Dim G, see sheet 63 of 143.
For View E-E, see sheet 61 of 143.

BILL OF MATERIAL

Item	Unit	Quantity
Finger Plate Expansion Joint, 4"	Foot	157
Fabric Reinforced Elastomeric Trough	Foot	162

STOOL SPACING
☉ BRG. PIER 6B

Stools	Dimension
N-1 to N-2	1'-10 ⁹ / ₁₆ "
N-2 to N-3	1'-8"
N-3 to N-4	1'-8"
N-4 to N-5	1'-8"
N-5 to N-6	1'-8"
N-6 to N-7	1'-10 ⁹ / ₁₆ "
N-7 to N-8	1'-10 ⁹ / ₁₆ "
N-8 to N-9	1'-8"
N-9 to N-10	1'-8"
N-10 to N-11	1'-8"
N-11 to N-12	1'-8"
N-12 to N-13	1'-10 ⁹ / ₁₆ "
N-13 to N-14	1'-9 ⁹ / ₁₆ "
N-14 to N-15	1'-11"
N-15 to N-16	1'-11"
N-16 to N-17	1'-11"
N-17 to N-18	1'-11"
N-18 to N-19	1'-9 ³ / ₈ "
N-19 to N-20	1'-7 ¹ / ₁₆ "
N-20 to N-21	1'-6 ³ / ₈ "
N-21 to N-22	1'-6 ³ / ₈ "
N-22 to N-23	1'-6 ³ / ₈ "
N-23 to N-24	1'-6 ³ / ₈ "
N-24 to N-25	1'-6 ³ / ₈ "
N-25 to N-26	1'-7 ³ / ₄ "
N-26 to N-27	1'-7 ³ / ₄ "
N-27 to N-28	1'-6 ³ / ₈ "
N-28 to N-29	1'-6 ³ / ₈ "
N-29 to N-30	1'-6 ³ / ₈ "
N-30 to N-31	1'-6 ³ / ₈ "
N-31 to N-32	1'-6 ³ / ₈ "
N-32 to N-33	1'-7 ¹ / ₁₆ "
N-33 to N-34	1'-7 ¹ / ₁₆ "
N-34 to N-35	1'-6 ³ / ₈ "
N-35 to N-36	1'-6 ³ / ₈ "
N-36 to N-37	1'-6 ³ / ₈ "
N-37 to N-38	1'-6 ³ / ₈ "
N-38 to N-39	1'-6 ³ / ₈ "
N-39 to N-40	1'-7 ³ / ₄ "
N-40 to N-41	1'-7 ¹ / ₁₆ "
N-41 to N-42	1'-6 ³ / ₈ "
N-42 to N-43	1'-6 ³ / ₈ "
N-43 to N-44	1'-6 ³ / ₈ "
N-44 to N-45	1'-6 ³ / ₈ "
N-45 to N-46	1'-6 ³ / ₈ "
N-46 to N-47	1'-7 ¹ / ₁₆ "
N-47 to N-48	1'-11"
N-48 to N-49	2'-0"
N-49 to N-50	1'-11"

STOOL SPACING
☉ BRG. PIER 6B

Stools	Dimension
S-1 to S-2	1'-10 ³ / ₁₆ "
S-2 to S-3	2'-0"
S-3 to S-4	2'-0"
S-4 to S-5	2'-0"
S-5 to S-6	1'-10 ³ / ₁₆ "
S-6 to S-7	1'-10 ³ / ₁₆ "
S-7 to S-8	2'-0"
S-8 to S-9	2'-0"
S-9 to S-10	2'-0"
S-10 to S-11	1'-10 ³ / ₁₆ "
S-11 to S-12	1'-10 ³ / ₁₆ "
S-12 to S-13	2'-0"
S-13 to S-14	2'-0"
S-14 to S-15	2'-0"
S-15 to S-16	1'-10 ³ / ₁₆ "
S-16 to S-17	1'-9 ³ / ₄ "
S-17 to S-18	1'-3"
S-18 to S-19	1'-3"
S-19 to S-20	1'-9 ³ / ₄ "
S-20 to S-21	1'-7 ¹ / ₂ "
S-21 to S-22	1'-3 ¹ / ₄ "
S-22 to S-23	1'-3 ¹ / ₄ "
S-23 to S-24	1'-11 ¹ / ₂ "
S-24 to S-25	1'-7 ¹ / ₂ "
S-25 to S-26	1'-5 ¹ / ₄ "
S-26 to S-27	1'-5 ¹ / ₄ "
S-27 to S-28	1'-7 ¹ / ₂ "
S-28 to S-29	1'-7 ¹ / ₂ "
S-29 to S-30	1'-2 ¹ / ₄ "
S-30 to S-31	1'-2 ¹ / ₄ "
S-31 to S-32	2'-1 ¹ / ₂ "
S-32 to S-33	1'-7 ³ / ₄ "
S-33 to S-34	1'-4 ¹ / ₈ "
S-34 to S-35	1'-4 ¹ / ₈ "
S-35 to S-36	1'-4 ¹ / ₈ "
S-36 to S-37	1'-4 ¹ / ₈ "
S-37 to S-38	1'-4 ¹ / ₈ "
S-38 to S-39	2'-0 ¹ / ₁₆ "
S-39 to S-40	1'-7 ⁹ / ₁₆ "
S-40 to S-41	1'-6 ¹ / ₄ "
S-41 to S-42	1'-6 ¹ / ₄ "
S-42 to S-43	1'-6 ¹ / ₄ "
S-43 to S-44	1'-6 ¹ / ₄ "
S-44 to S-45	1'-6 ¹ / ₄ "
S-45 to S-46	1'-6"
S-46 to S-47	1'-11"
S-47 to S-48	2'-0"
S-48 to S-49	1'-11"

PIER 6B
DIM. G TABLE

Stool	Dim. G
N-1	5"
N-2	8"
N-3	8"
N-4	8"
N-5	8"
N-6	8"
N-7	5"
N-8	8"
N-9	8"
N-10	8"
N-11	8"
N-12	8"
N-13	5"
N-14	8"
N-15	8"
N-16	8"
N-17	8"
N-18	8"
N-19	5"
N-20	8"
N-21	8"
N-22	8"
N-23	8"
N-24	8"
N-25	8"
N-26	5"
N-27	8"
N-28	8"
N-29	8"
N-30	8"
N-31	8"
N-32	8"
N-33	5"
N-34	8"
N-35	8"
N-36	8"
N-37	8"
N-38	8"
N-39	8"
N-40	5"
N-41	8"
N-42	8"
N-43	8"
N-44	8"
N-45	8"
N-46	8"
N-47	5"
N-48	8"
N-49	8"
N-50	5"

PIER 6B
DIM. G TABLE

Stool	Dim. G
S-1	5"
S-2	8"
S-3	8"
S-4	8"
S-5	8"
S-6	5"
S-7	8"
S-8	8"
S-9	8"
S-10	8"
S-11	5"
S-12	8"
S-13	8"
S-14	8"
S-15	8"
S-16	5"
S-17	8"
S-18	8"
S-19	8"
S-20	5"
S-21	8"
S-22	8"
S-23	8"
S-24	5"
S-25	8"
S-26	8"
S-27	8"
S-28	5"
S-29	8"
S-30	8"
S-31	8"
S-32	5"
S-33	8"
S-34	8"
S-35	8"
S-36	8"
S-37	8"
S-38	8"
S-39	5"
S-40	8"
S-41	8"
S-42	8"
S-43	8"
S-44	8"
S-45	8"
S-46	5"
S-47	8"
S-48	8"
S-49	5"

STOOL SPACING
☉ BRG. PIER 10B

Stools	Dimension
N-51 to N-52	1'-8 ¹ / ₄ "
N-52 to N-53	1'-6"
N-53 to N-54	1'-6"
N-54 to N-55	1'-8 ¹ / ₄ "
N-55 to N-56	1'-8 ¹ / ₄ "
N-56 to N-57	1'-6"
N-57 to N-58	1'-6"
N-58 to N-59	1'-8 ¹ / ₄ "
N-59 to N-60	1'-8 ⁵ / ₁₆ "
N-60 to N-61	1'-6"
N-61 to N-62	1'-6"
N-62 to N-63	1'-8 ⁵ / ₁₆ "
N-63 to N-64	1'-8 ⁵ / ₁₆ "
N-64 to N-65	2'-0"
N-65 to N-66	2'-0"
N-66 to N-67	1'-8 ¹ / ₄ "
N-67 to N-68	1'-8 ³ / ₈ "
N-68 to N-69	2'-0"
N-69 to N-70	2'-0"
N-70 to N-71	2'-0"
N-71 to N-72	1'-8 ⁷ / ₁₆ "
N-72 to N-73	1'-8 ⁷ / ₁₆ "
N-73 to N-74	2'-0"
N-74 to N-75	2'-0"
N-75 to N-76	2'-0"
N-76 to N-77	1'-8 ⁷ / ₁₆ "
N-77 to N-78	1'-8 ⁷ / ₁₆ "
N-78 to N-79	2'-0"
N-79 to N-80	2'-0"
N-80 to N-81	2'-0"
N-81 to N-82	1'-8 ¹ / ₂ "
N-82 to N-83	1'-8 ¹ / ₂ "
N-83 to N-84	2'-0 ¹ / ₁₆ "
N-84 to N-85	2'-0 ¹ / ₁₆ "
N-85 to N-86	2'-0 ¹ / ₁₆ "
N-86 to N-87	1'-8 ¹ / ₂ "
N-87 to N-88	1'-8"
N-88 to N-89	1'-8 ¹ / ₂ "
N-89 to N-90	1'-8"

STOOL SPACING
☉ BRG. PIER 10B

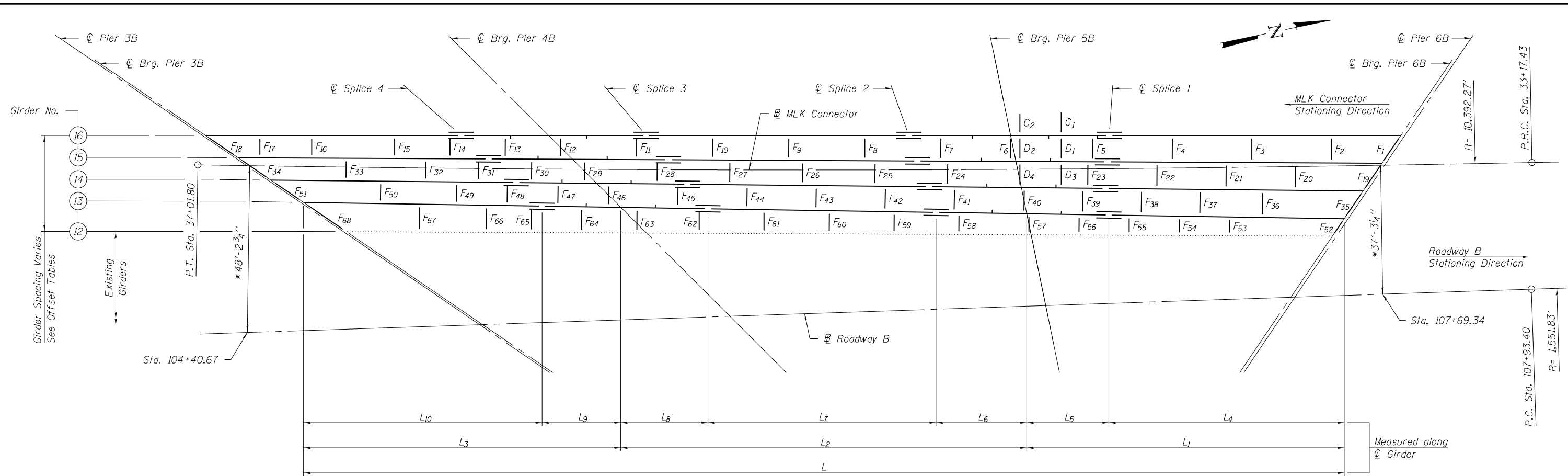
Stools	Dimension
S-50 to S-51	1'-8 ³ / ₁₆ "
S-51 to S-52	1'-11"
S-52 to S-53	1'-11"
S-53 to S-54	1'-11"
S-54 to S-55	1'-8 ³ / ₁₆ "
S-55 to S-56	1'-8 ³ / ₁₆ "
S-56 to S-57	1'-11"
S-57 to S-58	1'-11"
S-58 to S-59	1'-11"
S-59 to S-60	1'-8 ¹ / ₄ "
S-60 to S-61	1'-8 ¹ / ₄ "
S-61 to S-62	1'-8"
S-62 to S-63	1'-8"
S-63 to S-64	1'-8"
S-64 to S-65	1'-8 ¹ / ₈ "
S-65 to S-66	1'-8 ¹ / ₈ "
S-66 to S-67	2'-0"
S-67 to S-68	2'-0"
S-68 to S-69	2'-0"
S-69 to S-70	1'-8 ⁷ / ₁₆ "
S-70 to S-71	1'-8 ⁷ / ₁₆ "
S-71 to S-72	2'-0"
S-72 to S-73	2'-0"
S-73 to S-74	2'-0"
S-74 to S-75	1'-8 ¹ / ₂ "
S-75 to S-76	1'-8 ¹ / ₂ "
S-76 to S-77	2'-0"
S-77 to S-78	2'-0"
S-78 to S-79	2'-0"
S-79 to S-80	1'-8 ⁹ / ₁₆ "
S-80 to S-81	1'-8 ¹ / ₂ "
S-81 to S-82	2'-0 ¹ / ₁₆ "
S-82 to S-83	2'-0 ¹ / ₁₆ "
S-83 to S-84	2'-0 ¹ / ₁₆ "
S-84 to S-85	1'-8 ¹ / ₂ "
S-85 to S-86	1'-8 ¹ / ₂ "
S-86 to S-87	1'-8"
S-87 to S-88	1'-8 ¹ / ₂ "

PIER 10B
DIM. G TABLE

Stool	Dim. G
N-51	5"
N-52	8"
N-53	8"
N-54	8"
N-55	5"
N-56	8"
N-57	8"
N-58	8"
N-59	5"
N-60	8"
N-61	8"
N-62	8"
N-63	5"
N-64	8"
N-65	8"
N-66	8"
N-67	5"
N-68	8"
N-69	8"
N-70	8"
N-71	8"
N-72	5"
N-73	8"
N-74	8"
N-75	8"
N-76	8"
N-77	5"
N-78	8"
N-79	8"
N-80	8"
N-81	8"
N-82	5"
N-83	8"
N-84	8"
N-85	8"
N-86	8"
N-87	5"
N-88	8"
N-89	8"
N-90	5"

PIER 10B
DIM. G TABLE

Stool	Dim. G
S-50	5"
S-51	8"
S-52	8"
S-53	8"
S-54	8"
S-55	5"
S-56	8"
S-57	8"
S-58	8"
S-59	8"
S-60	5"
S-61	8"
S-62	8"
S-63	8"
S-64	8"
S-65	5"
S-66	8"
S-67	8"
S-68	8"
S-69	8"
S-70	5"
S-71	8"
S-72	8"
S-73	8"
S-74	8"
S-75	5"
S-76	8"
S-77	8"
S-78	8"
S-79	8"
S-80	5"
S-81	8"
S-82	8"
S-83	8"
S-84	8"
S-85	5"
S-86	8"
S-87	8"
S-88	5"

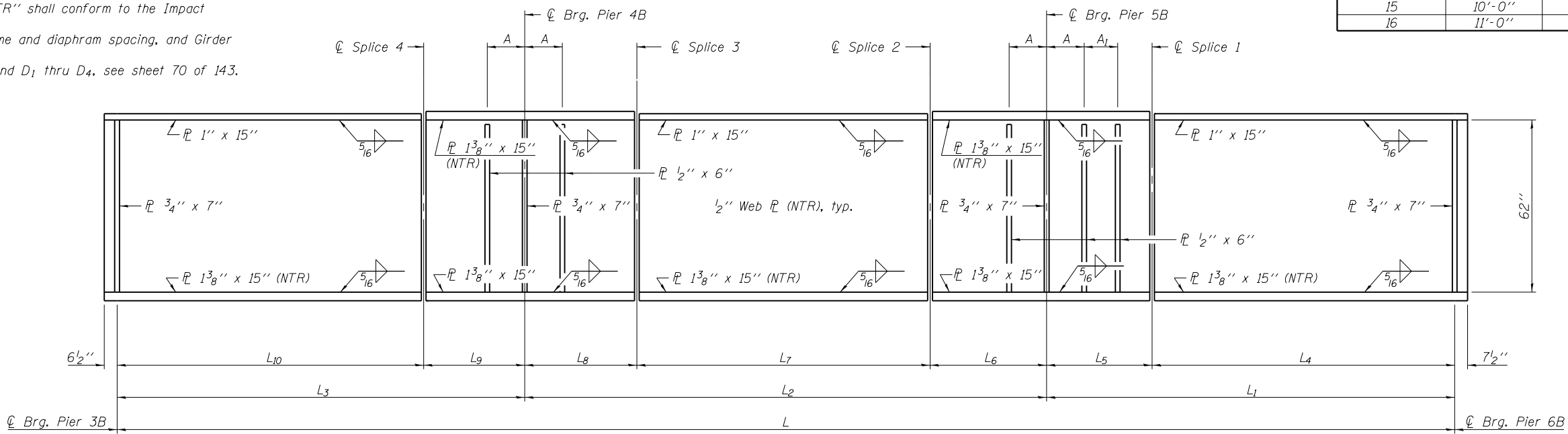


*Measured perpendicular to MLK Connector

FRAMING PLAN

Notes:
 All flanges, web plates, bearing stiffeners, intermediate stiffeners, cantilever bracket, diaphragms, cross frames, and splice plates shall be AASHTO M270 Grade 50. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
 For Table of "L" Dimensions, cross frame and diaphragm spacing, and Girder Offset Table, see sheet 65 of 143.
 For sign support cross frames C₁, C₂, and D₁ thru D₄, see sheet 70 of 143.

INTERMEDIATE STIFFENER TABLE		
Girder No.	A	A _I
13	10'-0"	---
14	10'-0"	---
15	10'-0"	---
16	11'-0"	14'-0"



GIRDER ELEVATION
 "NTR" denotes plates to which notch toughness requirements are applicable.

TABLE OF "L" DIMENSIONS

Location	L	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉	L ₁₀
Girder No. 12	±285'-2 ³ / ₄ "	±87'-1 ¹¹ / ₁₆ "	±111'-3 ³ / ₈ "	±86'-9 ¹¹ / ₁₆ "	±62'-8 ⁷ / ₈ "	±24'-4 ¹³ / ₁₆ "	±24'-8 ⁷ / ₈ "	±61'-5 ¹ / ₁₆ "	±25'-1 ⁷ / ₁₆ "	±24'-7 ⁷ / ₈ "	±62'-1 ¹³ / ₁₆ "
Stage Const. Jt.	293'-0 ⁹ / ₁₆ "	89'-5 ¹⁵ / ₁₆ "	114'-4 ⁹ / ₁₆ "	89'-3 ¹ / ₁₆ "	---	---	---	---	---	---	---
Girder No. 13	301'-1 ¹ / ₄ "	91'-10 ¹ / ₄ "	117'-5 ³ / ₄ "	91'-9 ¹ / ₄ "	68'-1 ¹ / ₄ "	23'-9"	26'-3"	65'-11 ¹⁵ / ₁₆ "	25'-2 ¹³ / ₁₆ "	22'-9 ³ / ₁₆ "	69'-0 ¹ / ₁₆ "
Girder No. 14	316'-0 ¹ / ₈ "	98'-10 ¹ / ₁₆ "	122'-10 ⁵ / ₈ "	94'-3 ¹ / ₁₆ "	74'-6 ¹ / ₈ "	24'-4 ³ / ₁₆ "	26'-7 ¹¹ / ₁₆ "	70'-0"	26'-2 ¹⁵ / ₁₆ "	23'-3 ¹ / ₁₆ "	71'-0"
Profile Grade	327'-1 ¹³ / ₁₆ "	105'-10 ¹ / ₁₆ "	125'-10 ³ / ₈ "	96'-3 ³ / ₈ "	---	---	---	---	---	---	---
Girder No. 15	330'-11 ¹ / ₈ "	105'-10 ³ / ₁₆ "	128'-3 ³ / ₈ "	96'-9 ³ / ₁₆ "	79'-5 ¹ / ₈ "	26'-5 ⁷ / ₁₆ "	28'-6 ⁹ / ₁₆ "	72'-0"	27'-8 ¹³ / ₁₆ "	24'-3 ³ / ₁₆ "	72'-6"
Girder No. 16	345'-10 ¹ / ₄ "	112'-10 ¹¹ / ₁₆ "	133'-8 ¹ / ₁₆ "	99'-3 ¹ / ₂ "	84'-4 ¹ / ₄ "	28'-6 ¹ / ₁₆ "	29'-5 ⁹ / ₁₆ "	76'-0"	28'-2 ¹ / ₂ "	25'-3 ¹ / ₂ "	74'-0"

* TOP OF WEB ELEVATIONS

Location	℄ Brg. Pier 3B	℄ Splice 4	℄ Brg. Pier 4B	℄ Splice 3	℄ Splice 2	℄ Brg. Pier 5B	℄ Splice 1	℄ Brg. Pier 6B
Girder 13	447.99	448.77	449.05	449.37	449.91	449.87	449.84	449.30
Girder 14	447.72	448.55	448.86	449.20	449.97	449.98	450.00	449.52
Girder 15	447.45	448.32	448.65	449.04	449.99	450.08	450.16	449.78
Girder 16	447.17	448.08	448.38	448.85	450.01	450.18	450.34	450.16

* For Fabrication only

GIRDER OFFSET TABLE
℄ BRG. PIER 3B

Girder No.	Station	Offset
12	36+57.65	-18'-8 ¹ / ₁₆ "
13	36+70.14	-10'-4 ⁵ / ₈ "
14	36+79.70	-4'-0 ³ / ₄ "
15	36+89.26	2'-2 ¹⁵ / ₁₆ "
16	36+98.84	8'-6 ⁵ / ₈ "

GIRDER OFFSET TABLE
℄ BRG. PIER 4B

Girder No.	Station	Offset
12	35+71.00	-18'-4 ¹ / ₁₆ "
13	35+78.47	-10'-11 ¹ / ₁₆ "
14	35+85.48	-4'-0 ¹ / ₁₆ "
15	35+92.48	2'-10 ¹ / ₄ "
16	35+99.47	9'-8 ¹ / ₁₆ "

GIRDER OFFSET TABLE
℄ BRG. PIER 5B

Girder No.	Station	Offset
12	34+59.92	-18'-11 ³ / ₁₆ "
13	34+61.14	-12'-10 ⁵ / ₁₆ "
14	34+62.65	-5'-3 ³ / ₈ "
15	34+64.16	2'-3 ⁵ / ₁₆ "
16	34+65.67	9'-9 ¹ / ₁₆ "

GIRDER OFFSET TABLE
℄ BRG. PIER 6B

Girder No.	Station	Offset
12	33+72.96	-20'-3 ¹ / ₁₆ "
13	33+69.44	-15'-3 ⁵ / ₁₆ "
14	33+63.87	-7'-4"
15	33+58.28	0'-7 ³ / ₁₆ "
16	33+52.69	8'-6 ¹ / ₁₆ "

CROSS FRAME SPACING
GIRDER 12

Cross Frames	Dimensions
F52 - F53	±29'-9 ³ / ₈ "
F53 - F54	14'-6"
F54 - F55	14'-6"
F55 - F56	14'-6"
F56 - F57	14'-6"
F57 - F58	20'-3 ¹ / ₈ "
F58 - F59	18'-9"
F59 - F60	18'-9"
F60 - F61	18'-10 ¹³ / ₁₆ "
F61 - F62	18'-9"
F62 - F63	18'-0"
F63 - F64	16'-0"
F64 - F65	14'-6"
F65 - F66	13'-0"
F66 - F67	19'-6"
F67 - F68	±21'-0 ⁷ / ₁₆ "

CROSS FRAME SPACING
GIRDER 13

Cross Frames	Dimensions
F35 - F36	23'-8 ⁵ / ₁₆ "
F36 - F37	18'-1 ³ / ₁₆ "
F37 - F38	16'-11 ³ / ₈ "
F38 - F39	16'-11 ⁹ / ₁₆ "
F39 - F40	16'-11 ¹³ / ₁₆ "
F40 - F41	20'-2 ³ / ₁₆ "
F41 - F42	20'-0"
F42 - F43	20'-0"
F43 - F44	20'-0"
F44 - F45	20'-0"
F45 - F46	20'-0"
F46 - F47	14'-8"
F47 - F48	14'-8"
F48 - F49	14'-8"
F49 - F50	22'-0"
F50 - F51	22'-2 ¹³ / ₁₆ "
F52 - F53	33'-2 ¹ / ₂ "
F53 - F54	14'-6"
F54 - F55	14'-6"
F55 - F56	14'-6"
F56 - F57	14'-6"
F57 - F58	20'-3 ¹ / ₈ "
F58 - F59	18'-9"
F59 - F60	18'-9"
F60 - F61	18'-10 ¹³ / ₁₆ "
F61 - F62	18'-9"
F62 - F63	18'-0"
F63 - F64	16'-0"
F64 - F65	14'-6"
F65 - F66	13'-0"
F66 - F67	19'-6"
F67 - F68	33'-5 ¹³ / ₁₆ "

CROSS FRAME SPACING
GIRDER 14

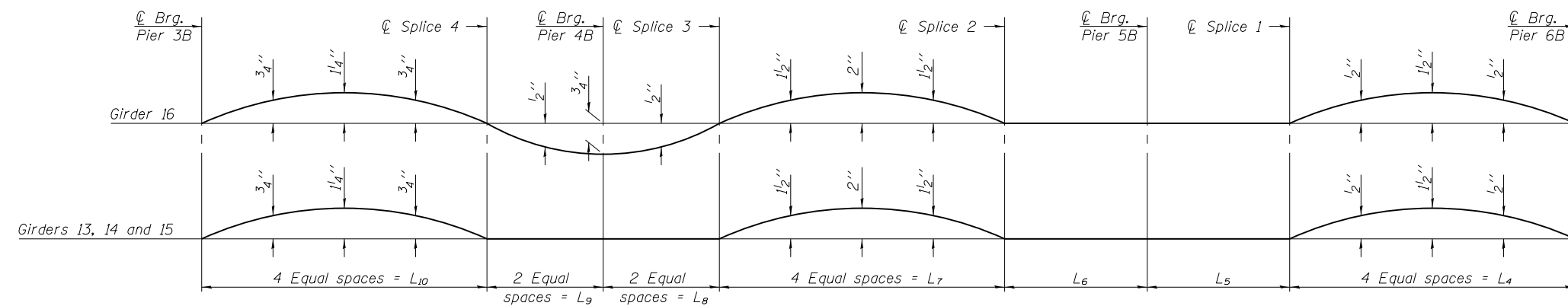
Cross Frames	Dimensions
F19 - F20	19'-8 ³ / ₁₆ "
F20 - F21	20'-0"
F21 - F22	20'-0"
F22 - F23	20'-0"
F23 - D3	7'-7 ¹ / ₂ "
D3 - D4	12'-0"
D4 - F24	20'-11 ¹ / ₂ "
F24 - F25	21'-0"
F25 - F26	21'-0"
F26 - F27	21'-0"
F27 - F28	21'-0"
F28 - F29	21'-0"
F29 - F30	15'-4"
F30 - F31	15'-4"
F31 - F32	15'-4"
F32 - F33	23'-0"
F33 - F34	21'-8 ¹⁵ / ₁₆ "
F35 - F36	29'-0 ⁵ / ₁₆ "
F36 - F37	18'-1 ³ / ₁₆ "
F37 - F38	16'-11 ³ / ₈ "
F38 - F39	16'-11 ⁵ / ₈ "
F39 - F40	16'-11 ¹³ / ₁₆ "
F40 - F41	20'-2 ³ / ₁₆ "
F41 - F42	20'-0"
F42 - F43	20'-0"
F43 - F44	20'-0"
F44 - F45	20'-0"
F45 - F46	20'-0"
F46 - F47	14'-8"
F47 - F48	14'-8"
F48 - F49	14'-8"
F49 - F50	22'-0"
F50 - F51	31'-9 ⁵ / ₈ "

CROSS FRAME SPACING
GIRDER 15

Cross Frames	Dimensions
F1 - F2	14'-8 ¹ / ₈ "
F2 - F3	23'-0"
F3 - F4	23'-0"
F4 - F5	23'-0"
F5 - D1	9'-1 ¹ / ₈ "
D1 - D2	12'-0"
D2 - F6	2'-8 ⁷ / ₁₆ "
F6 - F7	20'-2 ³ / ₁₆ "
F7 - F8	22'-0"
F8 - F9	22'-0"
F9 - F10	22'-0"
F10 - F11	22'-0"
F11 - F12	22'-0"
F12 - F13	16'-0"
F13 - F14	16'-0"
F14 - F15	16'-0"
F15 - F16	24'-0"
F16 - F17	15'-0"
F17 - F18	6'-3 ¹ / ₄ "
F19 - F20	25'-0 ³ / ₄ "
F20 - F21	20'-0"
F21 - F22	20'-0"
F22 - F23	20'-0"
F23 - D3	7'-8 ¹ / ₁₆ "
D3 - D4	12'-0"
D4 - F24	20'-10 ⁹ / ₁₆ "
F24 - F25	21'-0"
F25 - F26	21'-0"
F26 - F27	21'-0"
F27 - F28	21'-0"
F28 - F29	21'-0"
F29 - F30	15'-4"
F30 - F31	15'-4"
F31 - F32	15'-4"
F32 - F33	23'-0"
F33 - F34	31'-3 ³ / ₈ "

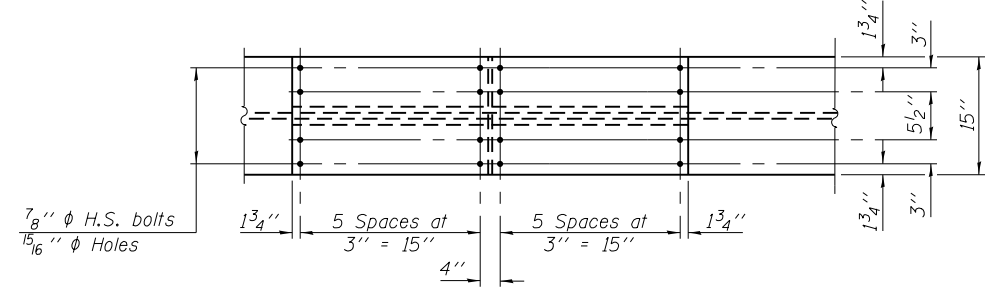
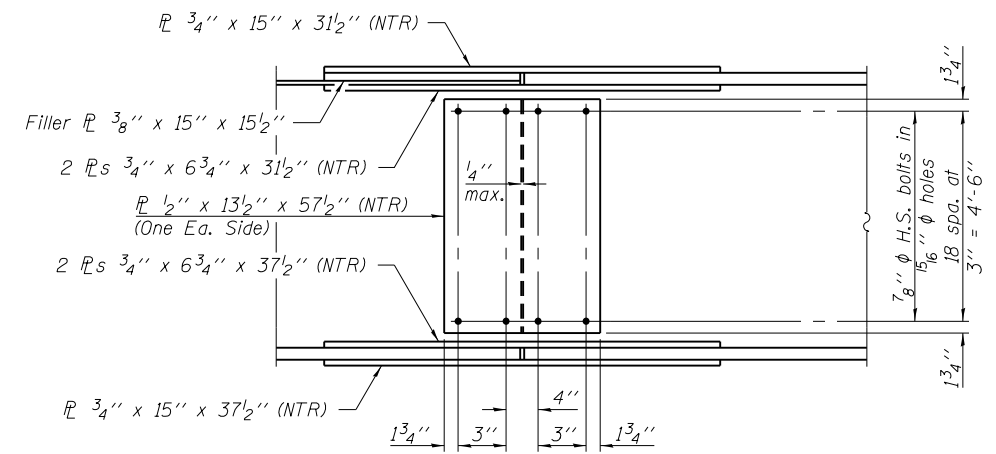
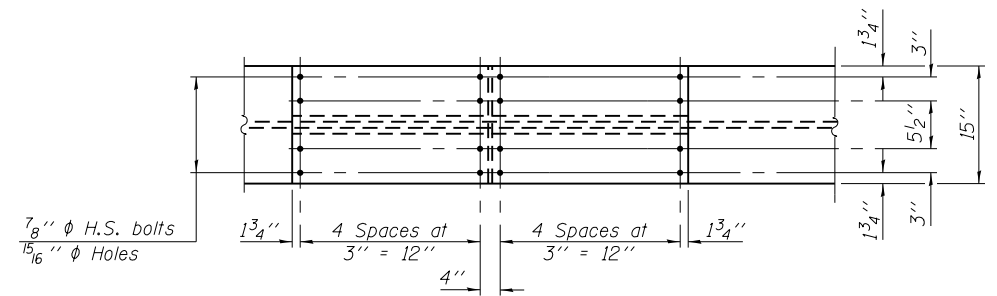
CROSS FRAME SPACING
GIRDER 16

Cross Frames	Dimensions
F1 - C1	98'-2 ¹¹ / ₁₆ "
C1 - C2	12'-0"
C2 - F6	2'-8"
F1 - F2	20'-1 ¹ / ₁₆ "
F2 - F3	23'-0"
F3 - F4	23'-0"
F4 - F5	23'-0"
F5 - D1	9'-1 ¹ / ₂ "
D1 - D2	12'-0"
D2 - F6	2'-8"
F6 - F7	20'-2 ³ / ₁₆ "
F7 - F8	22'-0"
F8 - F9	22'-0"
F9 - F10	22'-0"
F10 - F11	22'-0"
F11 - F12	22'-0"
F12 - F13	16'-0"
F13 - F14	16'-0"
F14 - F15	16'-0"
F15 - F16	24'-0"
F16 - F17	15'-0"
F17 - F18	15'-9 ³ / ₈ "

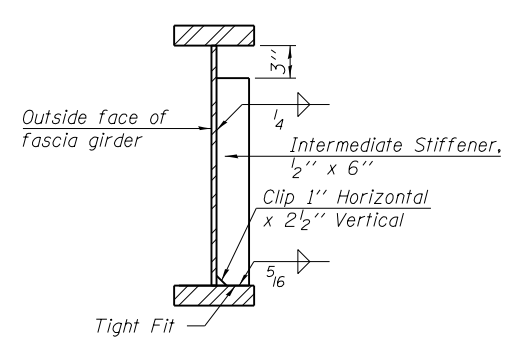


CAMBER DIAGRAMS

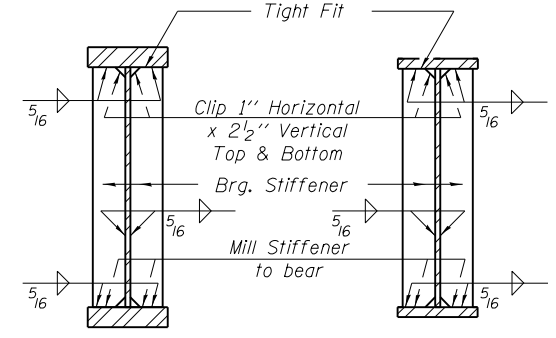
Notes:
For location of "L" dimensions, see sheet 64 of 143.
Girder offsets are measured perpendicular to MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.



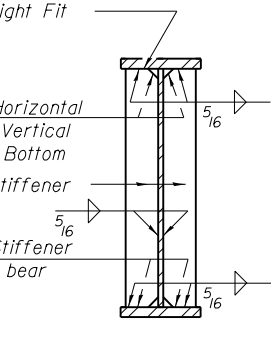
FIELD SPLICE
(16 Required)



SECTION AT INT. STIFFENER
(Fascia girders shown, interior girders similar)



SECTION AT PIERS 4B AND 5B



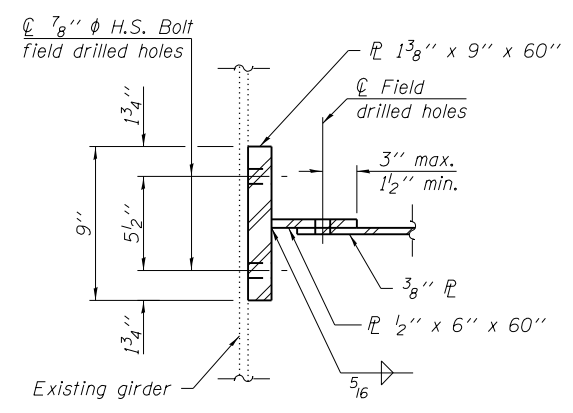
SECTION AT PIERS 3B AND 6B

CROSS FRAME DIM. a TABLE

Cross Frame	Type	Dim. a
F1	7	9'-8 1/16"
F2	1	7'-11 1/16"
F3	1	7'-10 1/16"
F4	1	7'-8 1/8"
F5	1	7'-7 9/16"
F6	3	7'-6 1/4"
F7	1	7'-5 1/16"
F8	1	7'-3 13/16"
F9	1	7'-2 9/16"
F10	1	7'-1 5/16"
F11	1	7'-0 1/16"
F12	3	6'-10 13/16"
F13	1	6'-9 1/8"
F14	1	6'-8 15/16"
F15	1	6'-8 1/16"
F16	1	6'-6 1/16"
F17	1	6'-5 13/16"
F18	5	11'-5 9/16"
F19	7	9'-8 7/16"
F20	1	7'-11 3/8"
F21	1	7'-10 1/8"
F22	1	7'-8 1/8"
F23	1	7'-7 5/8"
F24	1	7'-5 1/8"
F25	1	7'-3 13/16"
F26	1	7'-2 1/2"
F27	1	7'-1 3/16"
F28	1	6'-11 1/8"
F29	3	6'-10 9/16"
F30	1	6'-9 5/8"
F31	1	6'-8 1/16"
F32	1	6'-7 3/4"
F33	1	6'-6 5/16"
F34	5	11'-5 9/16"

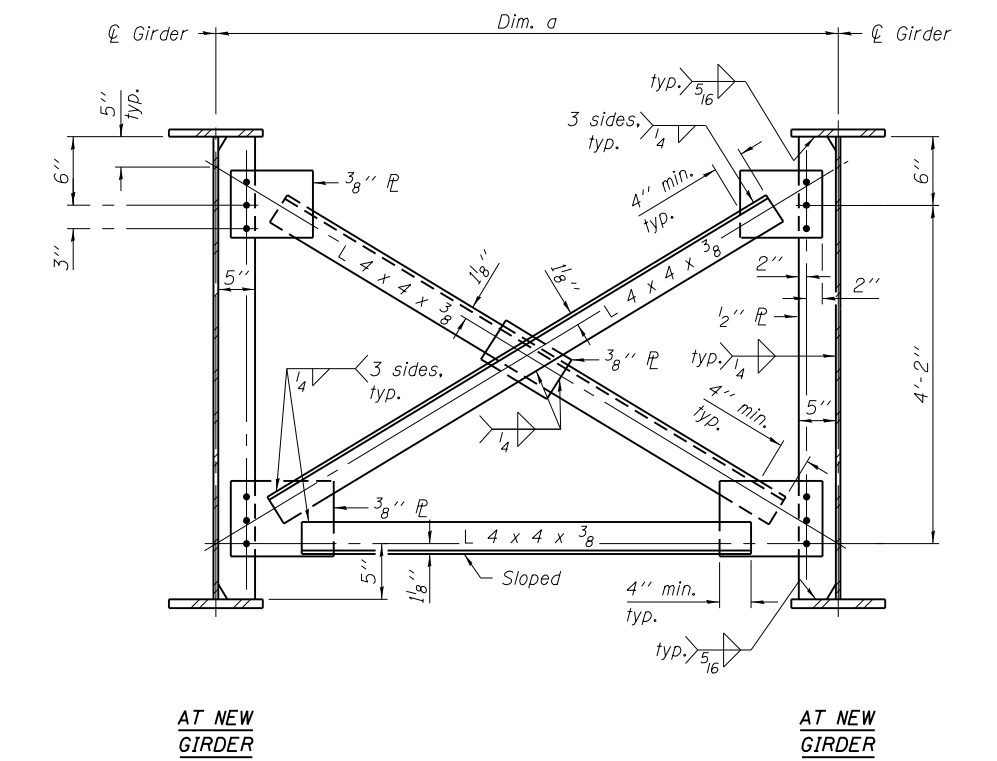
CROSS FRAME DIM. a TABLE

Cross Frame	Type	Dim. a
F35	7	9'-8 1/16"
F36	1	7'-11 5/16"
F37	1	7'-10 1/16"
F38	1	7'-8 15/16"
F39	1	7'-7 3/4"
F40	3	7'-6 5/8"
F41	1	7'-5 1/4"
F42	1	7'-3 1/8"
F43	1	7'-2 1/2"
F44	1	7'-1 1/8"
F45	1	6'-11 3/4"
F46	3	6'-10 3/8"
F47	1	6'-9 3/8"
F48	1	6'-8 3/8"
F49	1	6'-7 3/8"
F50	1	6'-5 3/8"
F51	5	11'-5 1/16"
F52	8	6'-1 1/2"
F53	2	5'-5 3/8"
F54	2	5'-7 1/4"
F55	2	5'-9 3/16"
F56	2	5'-11 1/8"
F57	4	6'-1"
F58	2	6'-3 1/16"
F59	2	6'-6 3/16"
F60	2	6'-8 5/16"
F61	2	6'-11 1/8"
F62	2	7'-1 3/8"
F63	4	7'-4"
F64	2	7'-6 1/8"
F65	2	7'-8"
F66	2	7'-9 3/4"
F67	2	8'-0 5/16"
F68	6	15'-0 1/16"

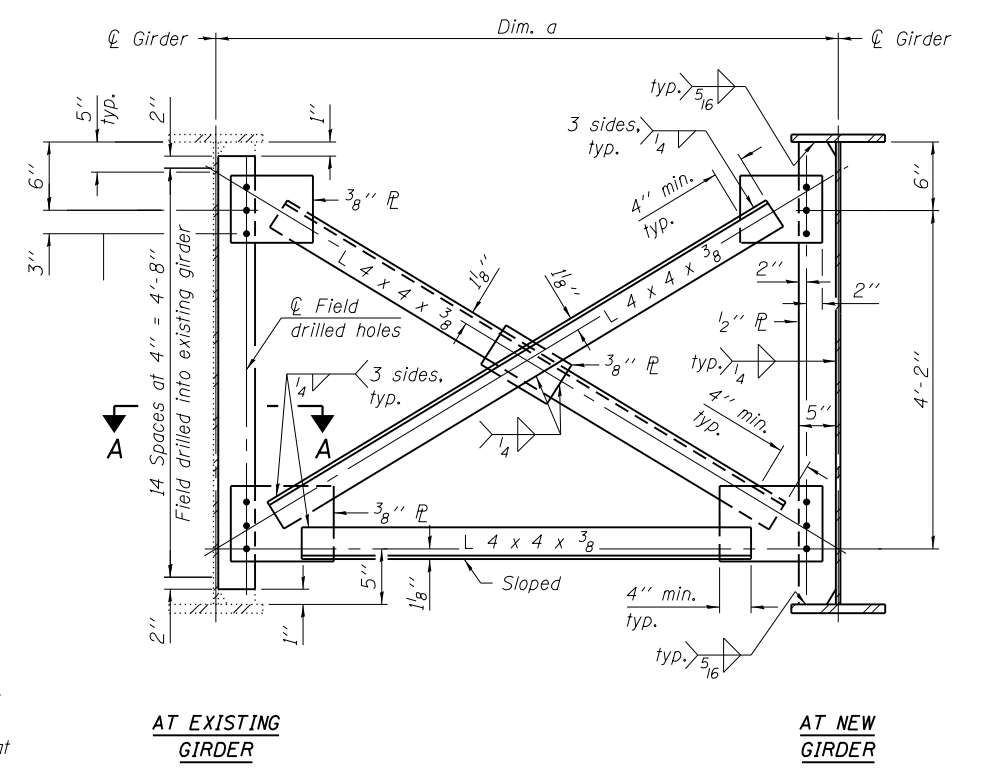


SECTION A-A

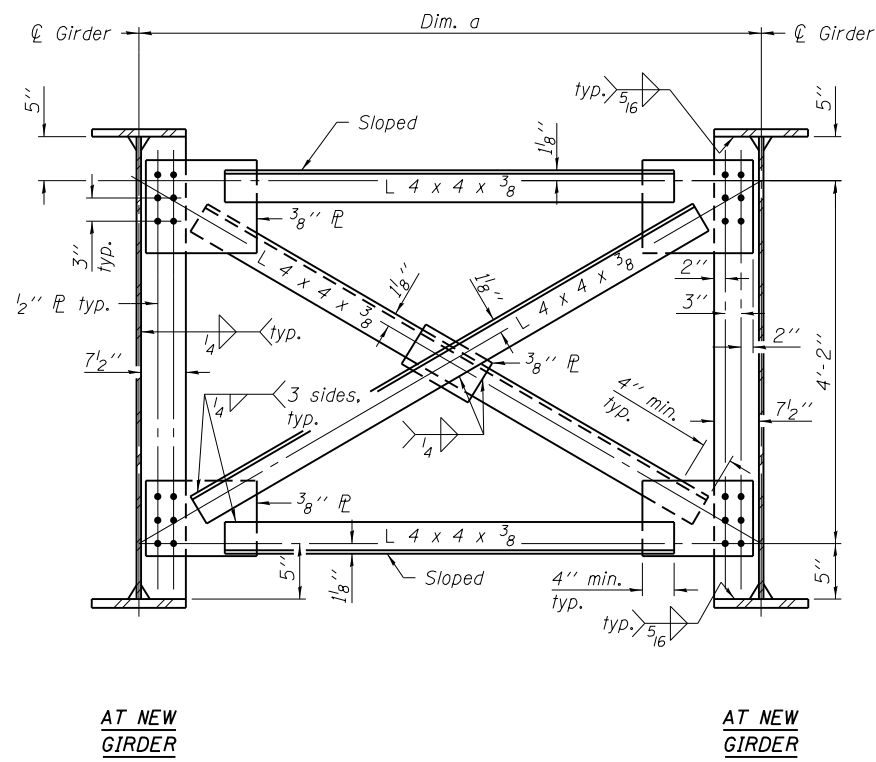
Notes:
 All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
 All bolts in cross frames shall be 7/8" φ in 1 1/16" φ holes. Two hardened washers shall be required for each set of oversized holes.
 Remove existing stiffener or connection plate if in conflict with new connection.



CROSS FRAME - TYPE 1
(40 Required)



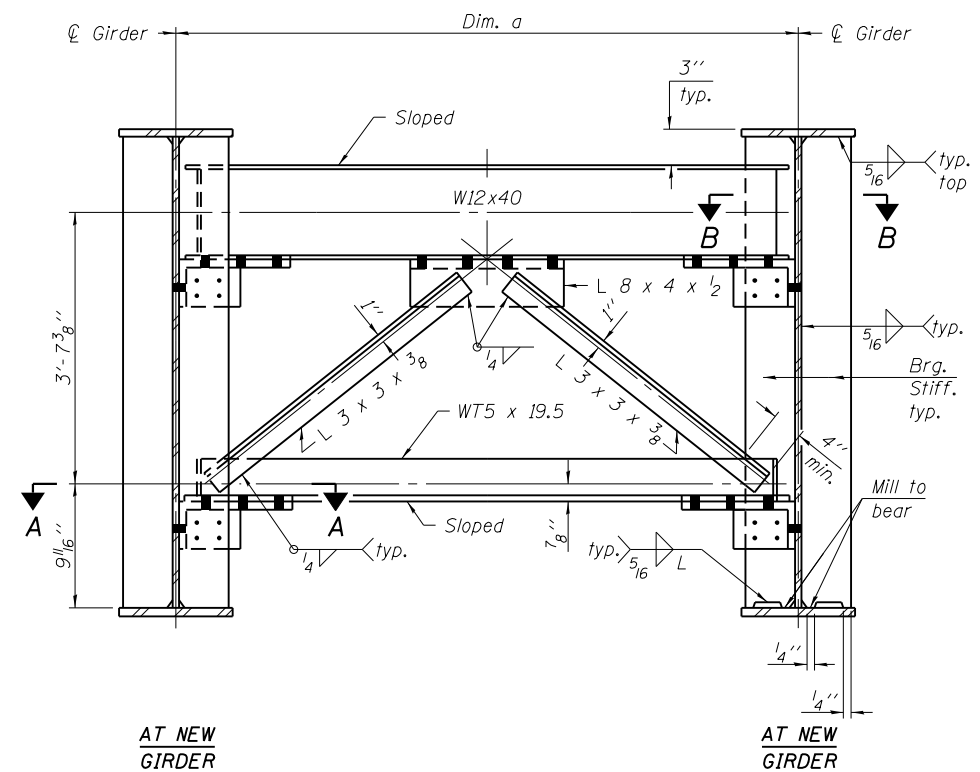
CROSS FRAME - TYPE 2
(13 Required)



AT NEW GIRDER

AT NEW GIRDER

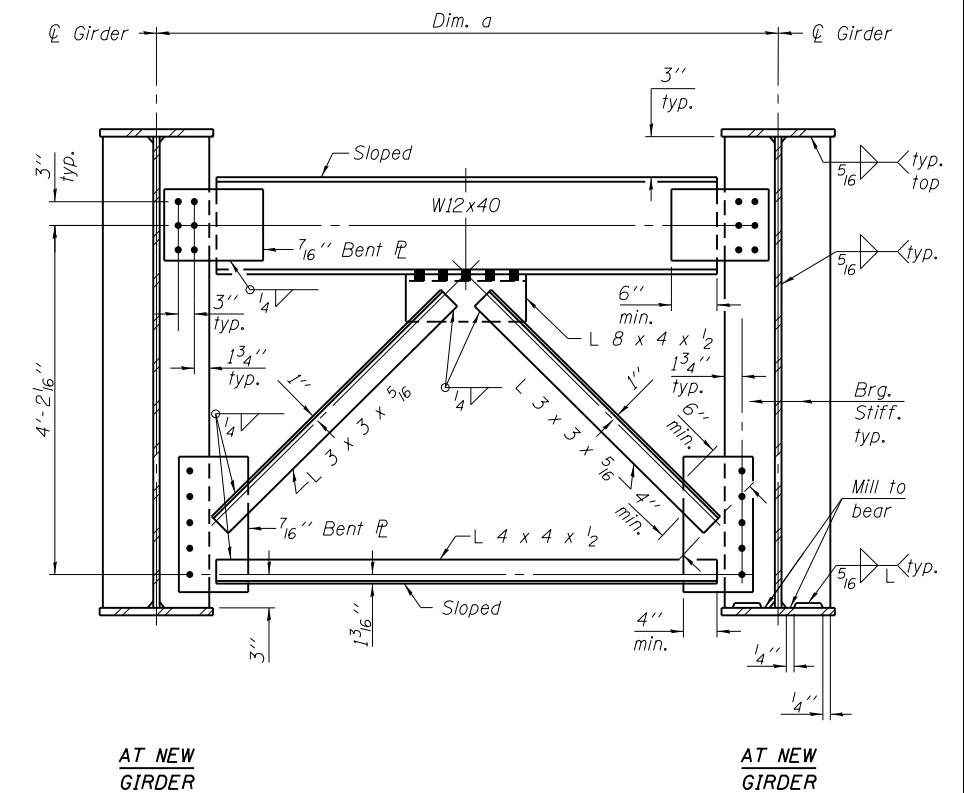
CROSS FRAME - TYPE 3
(5 Required)



AT NEW GIRDER

AT NEW GIRDER

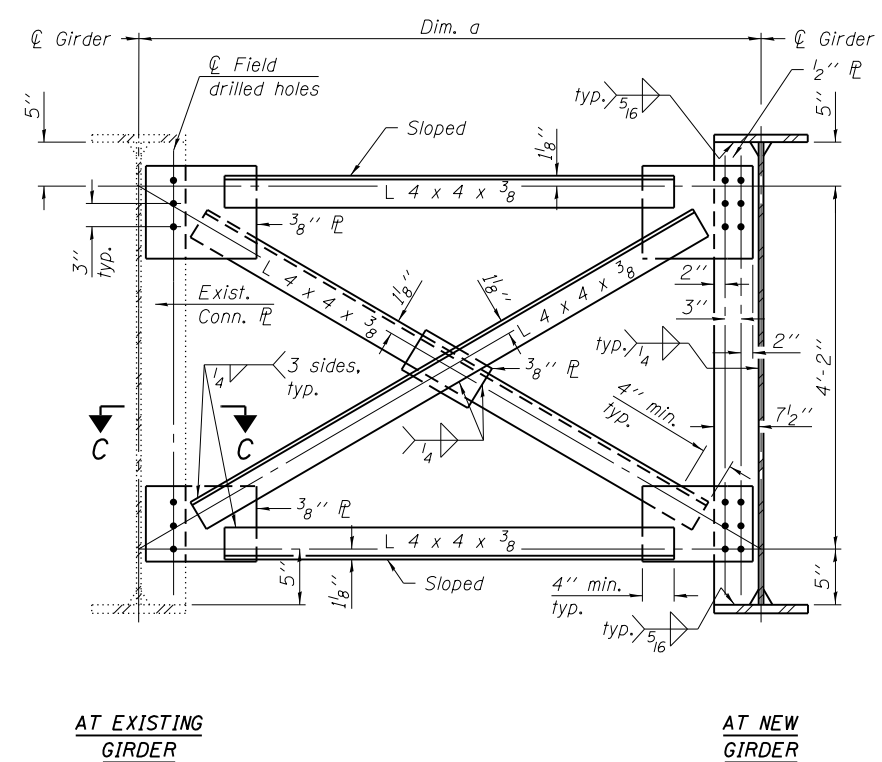
CROSS FRAME - TYPE 5
(3 Required)



AT NEW GIRDER

AT NEW GIRDER

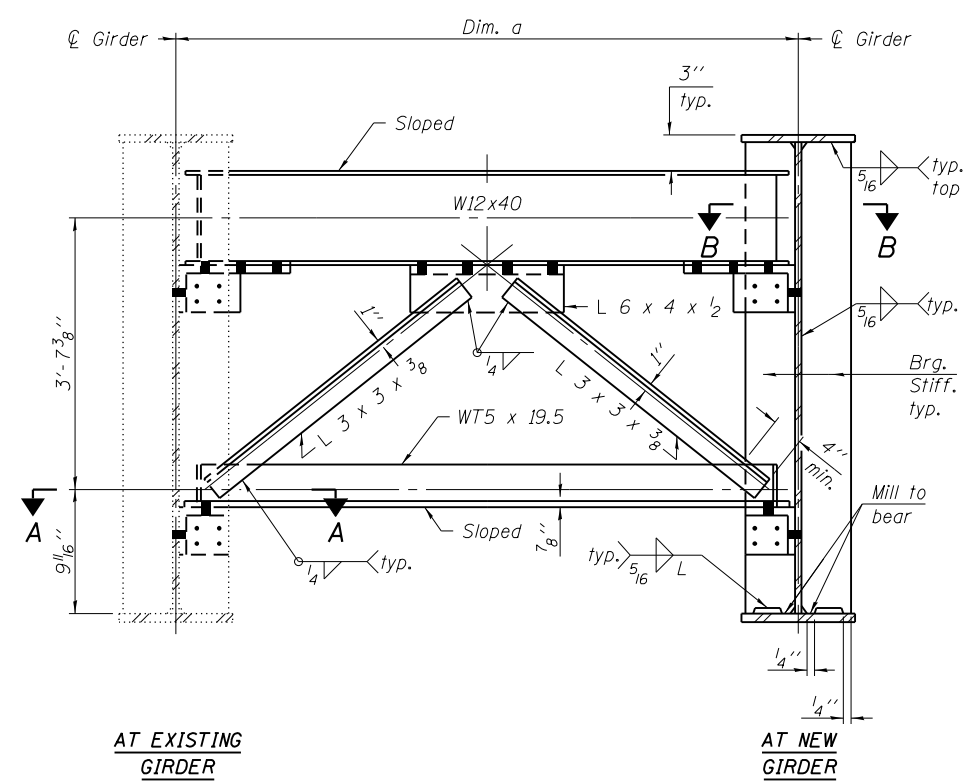
CROSS FRAME - TYPE 7
(3 Required)



AT EXISTING GIRDER

AT NEW GIRDER

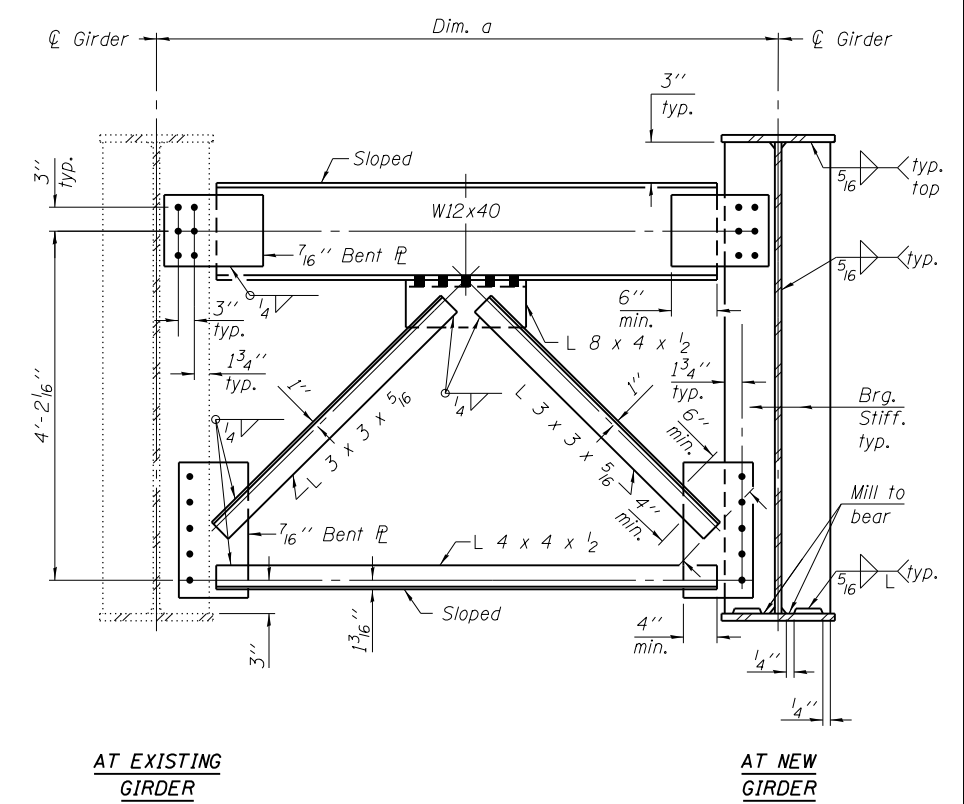
CROSS FRAME - TYPE 4
(2 Required)



AT EXISTING GIRDER

AT NEW GIRDER

CROSS FRAME - TYPE 6
(1 Required)

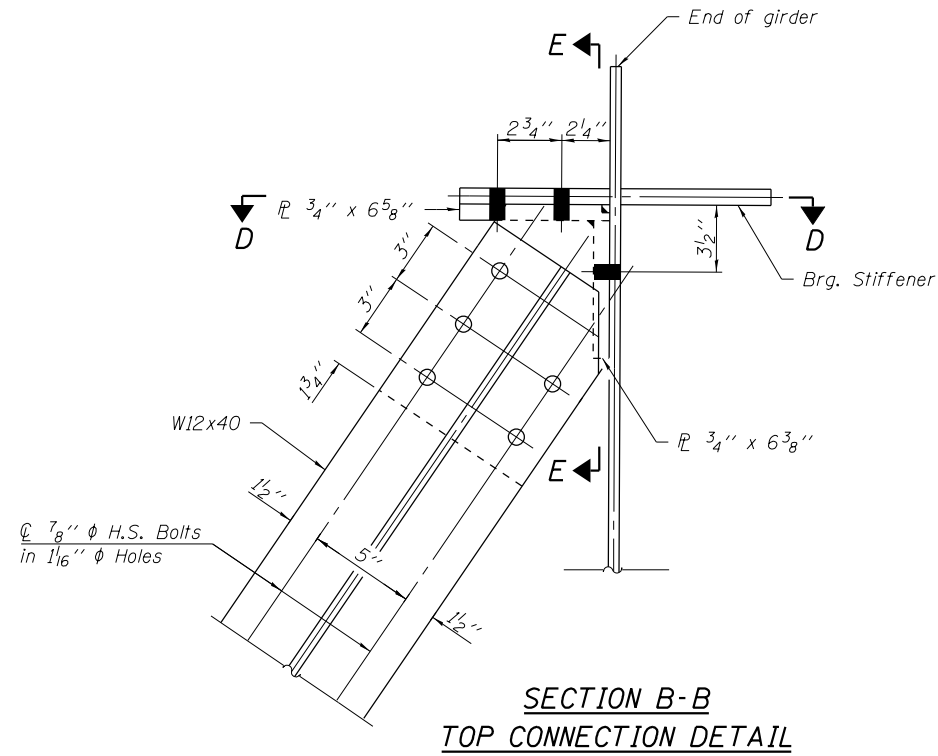


AT EXISTING GIRDER

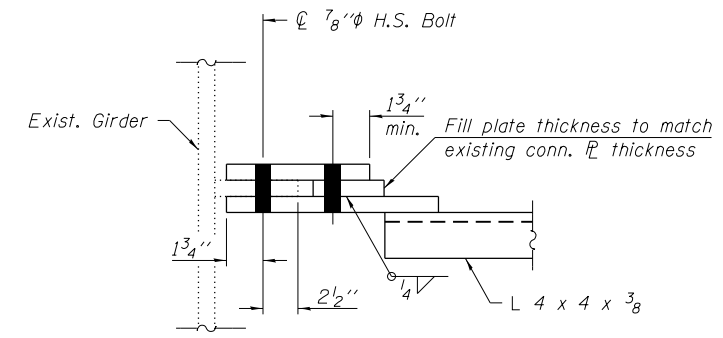
AT NEW GIRDER

CROSS FRAME - TYPE 8
(1 Required)

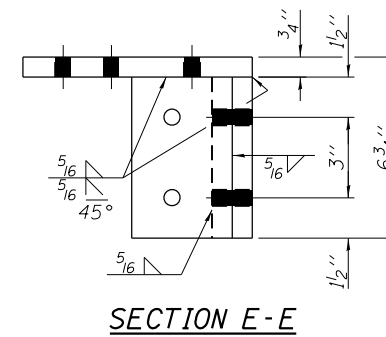
Note:
For Sections A-A, B-B, and C-C,
see sheet 68 of 143.



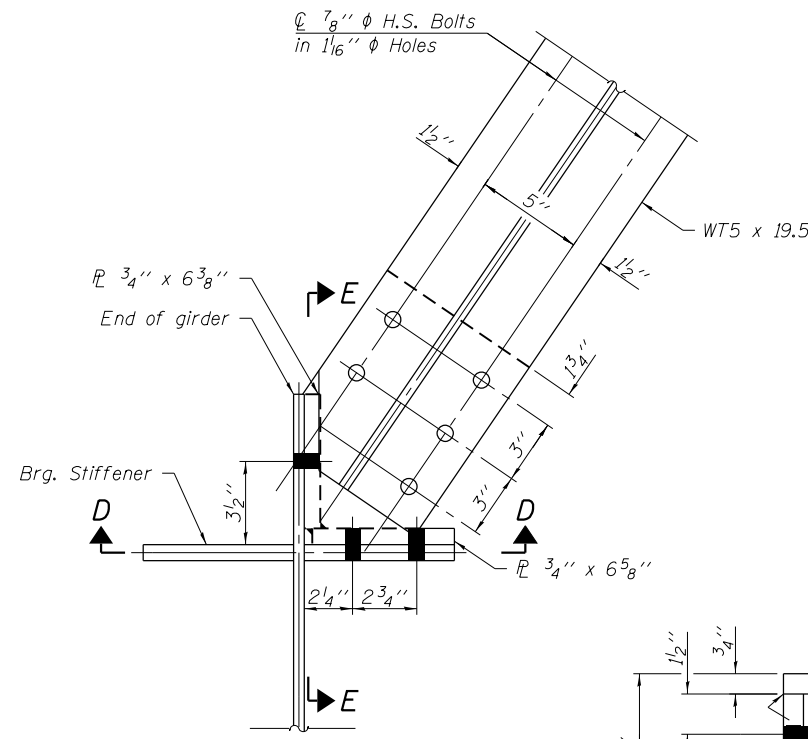
**SECTION B-B
TOP CONNECTION DETAIL**



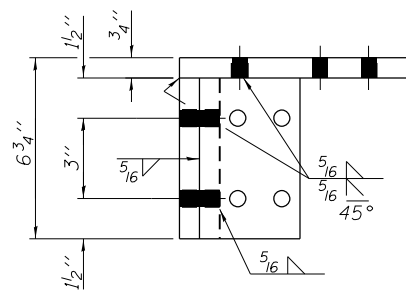
SECTION C-C



SECTION E-E



**SECTION A-A
BOTTOM CONNECTION DETAIL**



SECTION D-D

Notes:
 New girder to new girder shown, new girder to existing girder similar except for field drilled holes.
 For location of Sections A-A, B-B, and C-C, see sheet 67 of 143.

GIRDER MOMENT TABLE - GIRDER 13

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. B4	Pier 4B	0.5 Sp. B5	Pier 5B	0.6 Sp. B6
I_s	(in ⁴)	45,036	51,356	45,036	51,356	45,036
S_s	(in ³)	1,297	1,586	1,297	1,586	1,297
$\bar{\rho}$	(k/')	1.168	1.176	1.132	1.142	1.106
$M\bar{\rho}$	('k)	644	1,324	650	1,284	601
M_L	('k)	705	760	727	760	711
M_I	('k)	170	153	139	154	154
$\bar{S}_3 [M_L + M_I]$	('k)	1,458	1,522	1,443	1,523	1,442
M_a	('k)	2,733	3,700	2,722	3,649	2,656
M_u	('k)	---	---	---	---	---
$f_s \bar{\rho} \text{ non-comp}$	(ksi)	5.96	10.02	6.02	9.71	5.56
$f_s \bar{S}_3 [M_L + M_I]$	(ksi)	13.49	11.51	13.35	11.53	13.34
$f_s \text{ (Overload)}$	(ksi)	19.45	21.53	19.37	21.24	18.90
$f_s \text{ (Total)}$	(ksi)	25.28	27.99	25.18	27.61	24.57

INTERIOR GIRDER REACTION TABLE					
		Pier 3B	Pier 4B	Pier 5B	Pier 6B
$R\bar{\rho}$	(k)	38.8	134.8	130.6	36.5
R_L	(k)	44.5	84.1	84.1	44.5
R_I	(k)	10.3	18.3	18.3	10.3
R_{Total}	(k)	93.6	237.2	233.0	91.3

GIRDER MOMENT TABLE - GIRDER 15

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. B4	Pier 4B	0.5 Sp. B5	Pier 5B	0.6 Sp. B6
I_s	(in ⁴)	45,036	51,356	45,036	51,356	45,036
S_s	(in ³)	1,297	1,586	1,297	1,586	1,297
$\bar{\rho}$	(k/')	1.231	1.303	1.311	1.373	1.391
$M\bar{\rho}$	('k)	749	1,686	882	2,104	1,137
M_L	('k)	756	868	810	875	833
M_I	('k)	177	169	147	215	175
$\bar{S}_3 [M_L + M_I]$	('k)	1,555	1,728	1,595	1,817	1,680
M_a	('k)	2,995	4,438	3,220	5,096	3,662
M_u	('k)	---	---	---	---	---
$f_s \bar{\rho} \text{ non-comp}$	(ksi)	6.93	12.75	8.16	15.92	10.52
$f_s \bar{S}_3 [M_L + M_I]$	(ksi)	14.39	13.08	14.76	13.75	15.54
$f_s \text{ (Overload)}$	(ksi)	21.31	25.83	22.92	29.66	26.06
$f_s \text{ (Total)}$	(ksi)	27.71	33.58	29.79	38.56	33.88

INTERIOR GIRDER REACTION TABLE					
		Pier 3B	Pier 4B	Pier 5B	Pier 6B
$R\bar{\rho}$	(k)	43.8	161.9	193.9	56.8
R_L	(k)	44.8	89.1	91.5	45.2
R_I	(k)	10.1	18.8	18.9	9.8
R_{Total}	(k)	98.7	269.8	304.4	111.9

GIRDER MOMENT TABLE - GIRDER 14

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. B4	Pier 4B	0.5 Sp. B5	Pier 5B	0.6 Sp. B6
I_s	(in ⁴)	45,036	51,356	45,036	51,356	45,036
S_s	(in ³)	1,297	1,586	1,297	1,586	1,297
$\bar{\rho}$	(k/')	1.231	1.293	1.311	1.373	1.391
$M\bar{\rho}$	('k)	705	1,599	843	1,809	938
M_L	('k)	730	813	768	836	775
M_I	('k)	174	161	144	164	161
$\bar{S}_3 [M_L + M_I]$	('k)	1,507	1,623	1,520	1,667	1,560
M_a	('k)	2,875	4,190	3,072	4,519	3,247
M_u	('k)	---	---	---	---	---
$f_s \bar{\rho} \text{ non-comp}$	(ksi)	6.52	12.10	7.80	13.69	8.68
$f_s \bar{S}_3 [M_L + M_I]$	(ksi)	13.94	12.28	14.06	12.61	14.43
$f_s \text{ (Overload)}$	(ksi)	20.46	24.38	21.87	26.30	23.11
$f_s \text{ (Total)}$	(ksi)	26.60	31.70	28.43	34.19	30.04

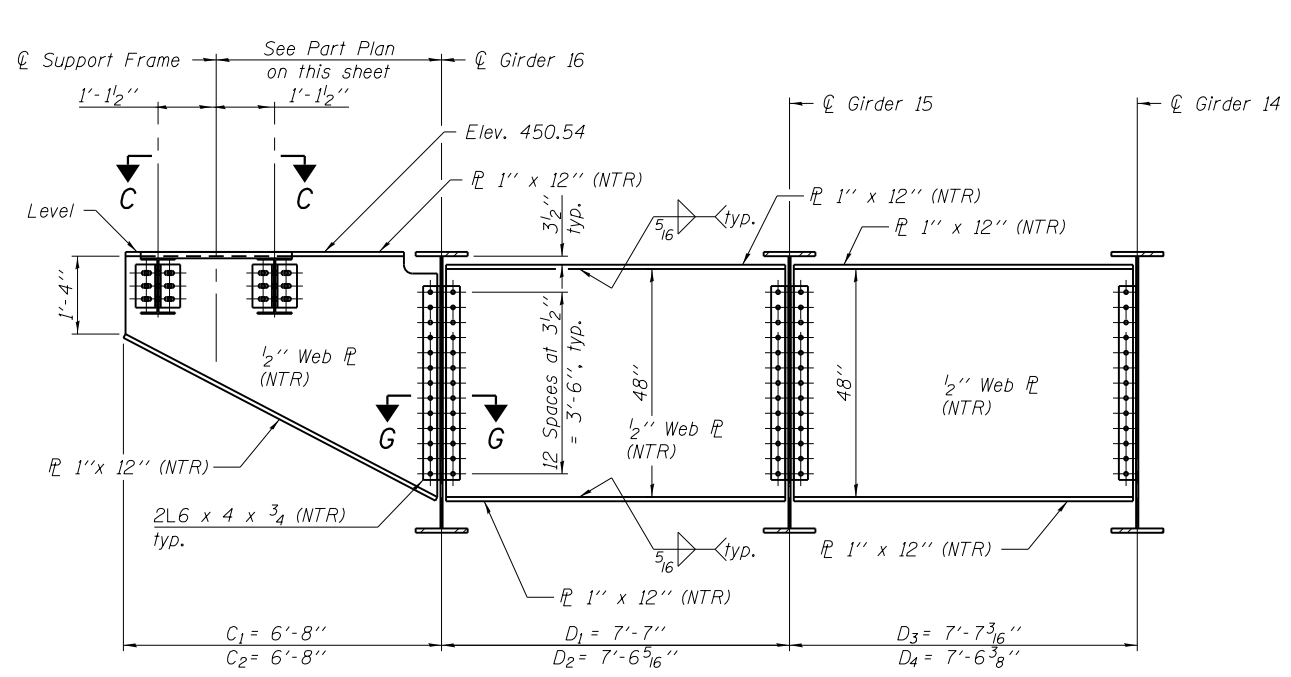
INTERIOR GIRDER REACTION TABLE					
		Pier 3B	Pier 4B	Pier 5B	Pier 6B
$R\bar{\rho}$	(k)	42.4	157.6	173.0	51.8
R_L	(k)	44.7	86.6	87.8	44.9
R_I	(k)	10.2	18.6	18.7	10.1
R_{Total}	(k)	97.2	262.8	279.5	106.7

GIRDER MOMENT TABLE - GIRDER 16

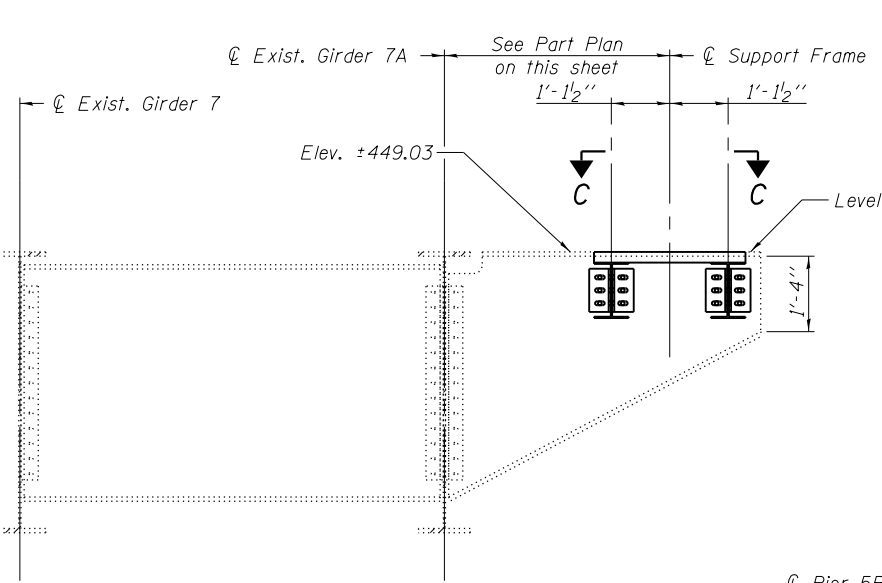
EXTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. B4	Pier 4B	0.5 Sp. B5	Pier 5B	0.6 Sp. B6
I_s	(in ⁴)	45,036	51,356	45,036	51,356	45,036
S_s	(in ³)	1,297	1,586	1,297	1,586	1,297
$\bar{\rho}$	(k/')	1.251	1.293	1.291	1.323	1.321
$M\bar{\rho}$	('k)	818	1,712	852	2,439	1,344
M_L	('k)	786	927	853	1,001	899
M_I	('k)	176	129	108	135	135
$\bar{S}_3 [M_L + M_I]$	('k)	1,603	1,760	1,602	1,893	1,723
M_a	('k)	3,148	4,514	3,190	5,632	3,988
M_u	('k)	---	---	---	---	---
$f_s \bar{\rho} \text{ non-comp}$	(ksi)	7.57	12.95	7.89	18.45	12.44
$f_s \bar{S}_3 [M_L + M_I]$	(ksi)	14.83	13.32	14.82	14.33	15.94
$f_s \text{ (Overload)}$	(ksi)	22.40	26.27	22.70	32.78	28.38
$f_s \text{ (Total)}$	(ksi)	29.12	34.15	29.52	42.61	36.90

EXTERIOR GIRDER REACTION TABLE					
		Pier 3B	Pier 4B	Pier 5B	Pier 6B
$R\bar{\rho}$	(k)	45.8	162.3	221.3	60.0
R_L	(k)	38.5	91.6	95.3	39.1
R_I	(k)	8.6	19.0	19.2	8.2
R_{Total}	(k)	93.0	272.9	335.8	107.3

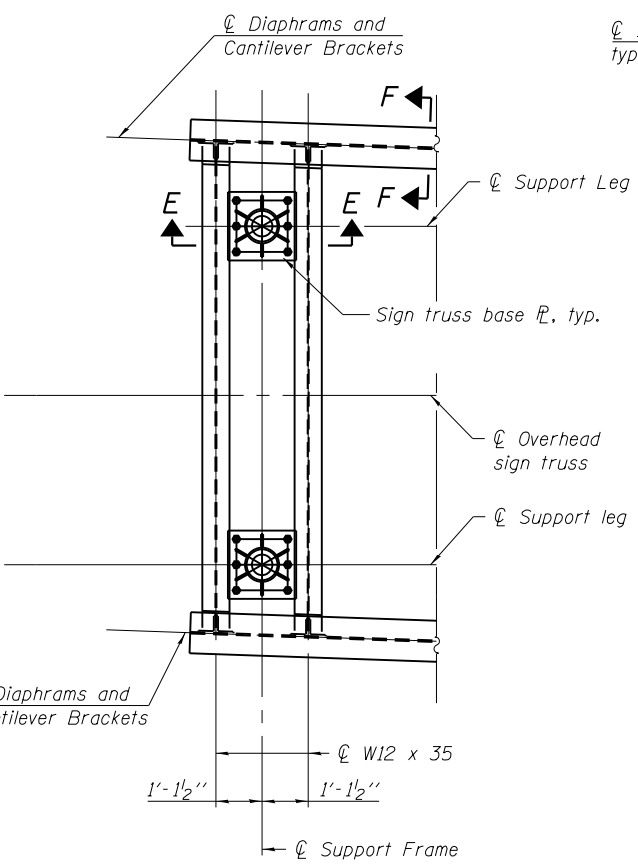
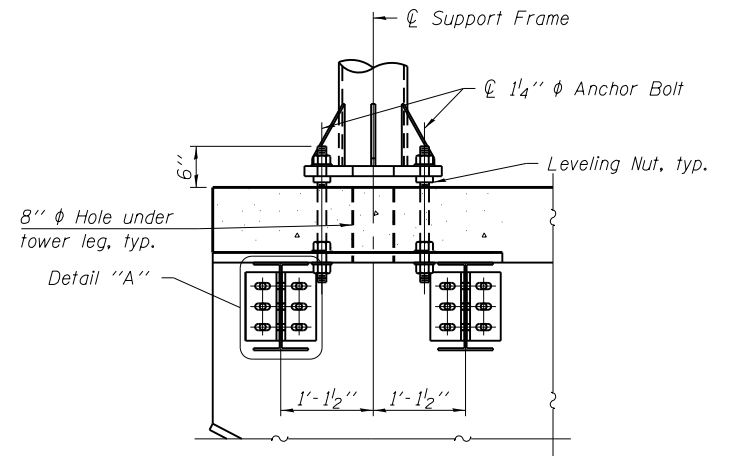
I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).
 $\bar{\rho}$: Un-factored non-composite dead load (kips/ft.).
 $M\bar{\rho}$: Un-factored moment due to non-composite dead load (kip-ft.).
 M_L : Un-factored live load moment (kip-ft.).
 M_I : Un-factored moment due to impact (kip-ft.).
 M_a : Factored design moment (kip-ft.).
 $1.3 [M\bar{\rho} + \frac{5}{3} (M_L + M_I)]$
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 $f_s \text{ (Overload)}$: Sum of stresses as computed from the moments below (ksi).
 $M\bar{\rho} + \frac{5}{3} (M_L + M_I)$
 $f_s \text{ (Total)}$: Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M\bar{\rho} + \frac{5}{3} (M_L + M_I)]$



PART SECTION A-A

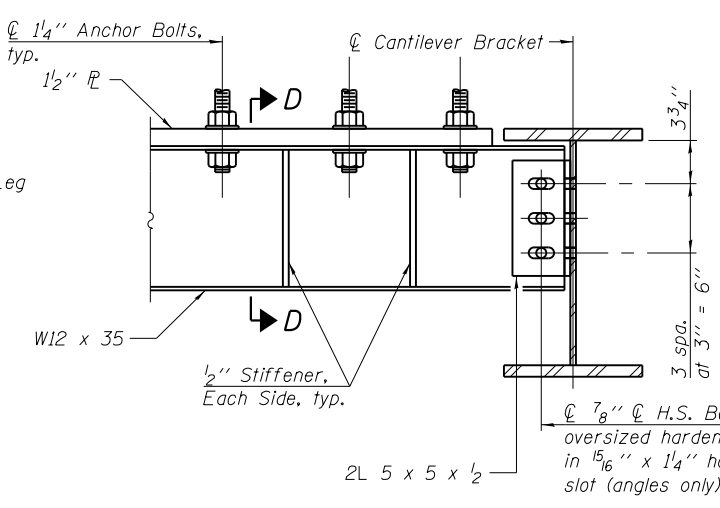


PART SECTION E-E

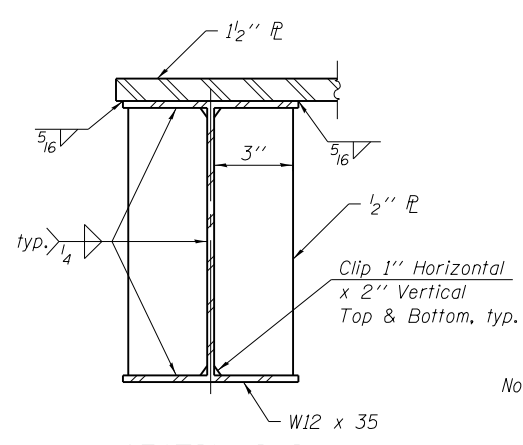


PART SECTION C-C

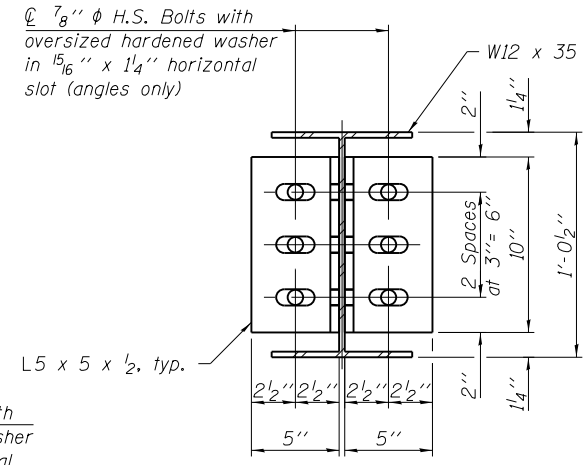
(New cantilever shown, existing cantilever similar)



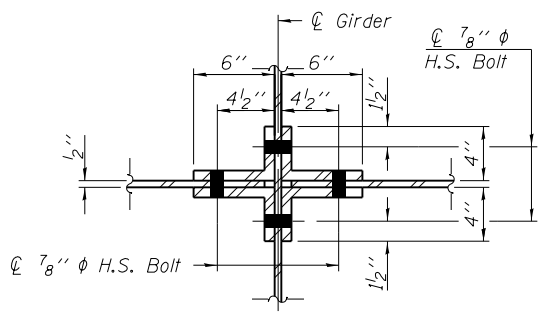
PART SECTION F-F



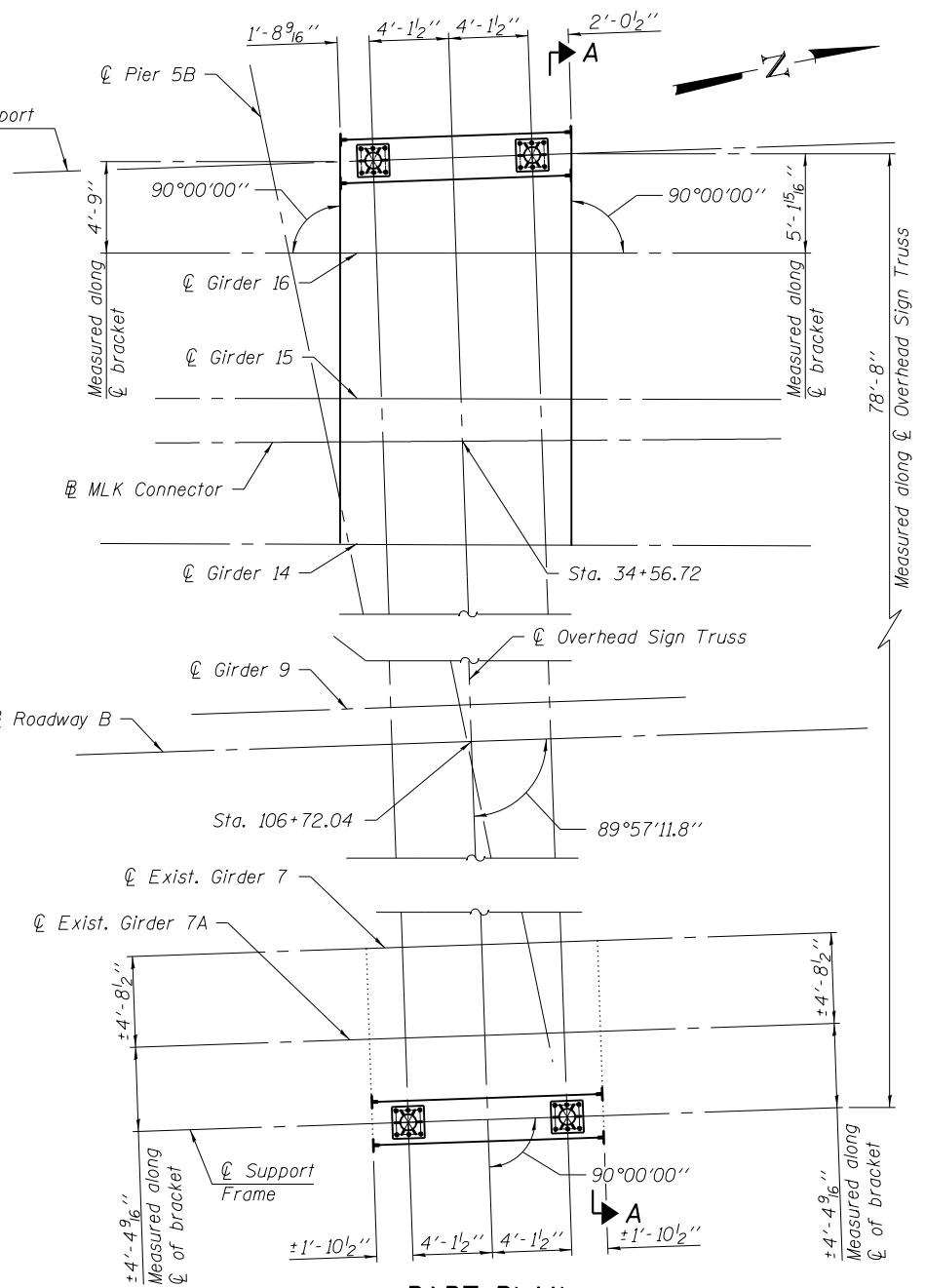
SECTION D-D



DETAIL 'A'

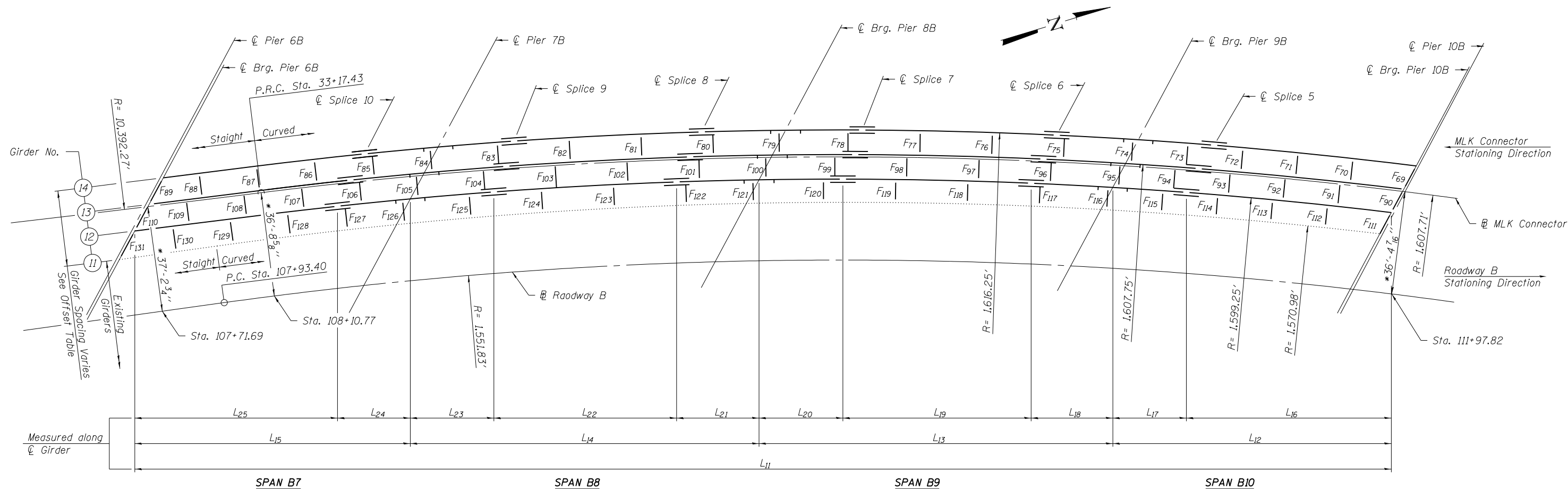


SECTION G-G



PART PLAN

Notes:
 All steel shall be AASHTO M270 Gr. 50.
 Load carrying components designated as "NTR" shall conform to the Impact Testing Requirements Zone 2.
 For anchor bolt spacing of support frame base \bar{r} , see sign structure sheets.
 All bolted connections to existing structural steel shall be field drilled.
 Reinforcement not show for clarity. For reinforcement details, see sheet 33 of 143.
 For diaphragm and cantilever bracket spacing, see sheet 64 of 143.



SPAN B7

SPAN B8

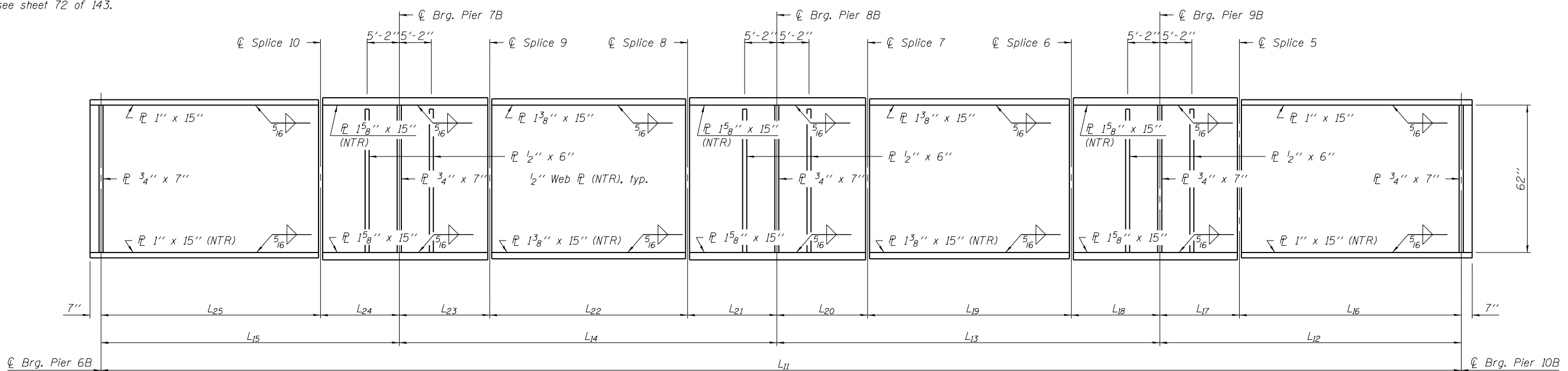
SPAN B9

SPAN B10

FRAMING PLAN

*Measured perpendicular to MLK Connector

Notes:
 All flanges, web plates, bearing stiffeners, intermediate stiffeners, cross frames, and splice plates shall be AASHTO M270 Grade 50.
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
 For Table of "L" Dimensions, cross frame spacing, and Girder Offset Table, see sheet 72 of 143.



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn 	DESIGNED - T.S. Friederich	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS - UNIT 3 STRUCTURE NO. 082-0010	F.A.I. RTÉ. = 64	SECTION = 82-(1,4)B-1	COUNTY = ST. CLAIR	TOTAL SHEETS = 406	SHEET NO. = 263	
	USER NAME = elagemann	CHECKED - E.M. Lagemann			REVISED	CONTRACT NO. 76G09				
	PLOT SCALE =	DRAWN - J.N. Bailey			REVISED	ILLINOIS FED. AID PROJECT				
	PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann			REVISED	SHEET NO. 71 OF 143 SHEETS				

TABLE OF "L" DIMENSIONS

Location	L11	L12	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	L25
11	437'-11 ³ / ₁₆ "	96'-9 ⁵ / ₁₆ "	122'-7 ³ / ₁₆ "	121'-2 ³ / ₁₆ "	96'-6 ¹ / ₂ "	70'-2 ⁹ / ₁₆ "	26'-6 ³ / ₄ "	26'-6 ¹ / ₈ "	67'-10 ¹ / ₁₆ "	28'-2 ⁵ / ₈ "	28'-0 ¹ / ₂ "	66'-3 ¹³ / ₁₆ "	26'-10 ¹ / ₂ "	26'-9 ¹³ / ₁₆ "	69'-8 ¹ / ₁₆ "
Stage Const. Jt.	436'-5 ¹⁵ / ₁₆ "	96'-8 ³ / ₄ "	122'-6 ⁹ / ₁₆ "	121'-1 ¹ / ₁₆ "	96'-2"	---	---	---	---	---	---	---	---	---	---
12	435'-7 ¹⁵ / ₁₆ "	96'-7 ¹⁵ / ₁₆ "	122'-4 ¹ / ₁₆ "	120'-9 ⁹ / ₁₆ "	95'-10 ¹ / ₂ "	71'-1 ¹⁵ / ₁₆ "	25'-6"	28'-3"	65'-1 ¹ / ₁₆ "	29'-0"	28'-6"	63'-3 ⁵ / ₁₆ "	29'-0"	25'-3"	70'-7 ¹ / ₂ "
13	435'-0 ³ / ₁₆ "	96'-6 ¹ / ₈ "	122'-2 ³ / ₁₆ "	120'-6 ³ / ₁₆ "	95'-8 ¹⁵ / ₁₆ "	71'-2 ⁷ / ₈ "	25'-4"	28'-5"	65'-1 ³ / ₁₆ "	28'-8"	28'-5"	63'-7 ³ / ₁₆ "	28'-6"	25'-8"	70'-0 ¹⁵ / ₁₆ "
Profile Grade	434'-11 ⁹ / ₁₆ "	96'-6 ¹ / ₈ "	122'-2 ³ / ₁₆ "	120'-6 ³ / ₁₆ "	95'-8 ¹⁵ / ₁₆ "	---	---	---	---	---	---	---	---	---	---
14	434'-4 ¹ / ₂ "	96'-5 ¹ / ₈ "	122'-0 ⁵ / ₁₆ "	120'-3 ¹ / ₈ "	95'-7 ³ / ₁₆ "	70'-2 ⁷ / ₈ "	26'-3"	28'-3"	67'-3 ⁵ / ₁₆ "	26'-6"	29'-0"	64'-11 ¹ / ₈ "	26'-4"	25'-6"	70'-1 ³ / ₁₆ "

GIRDER OFFSET TABLE
☉ BRG. PIER 6B

Girder No.	Station	Offset
11	33+68.84	-17'-8 ¹⁵ / ₁₆ "
12	33+62.38	-8'-6 ¹ / ₁₆ "
13	33+56.38	-0'-0 ³ / ₈ "
14	33+50.37	8'-5 ⁷ / ₈ "

GIRDER OFFSET TABLE
END OF GIRDER CURVE

Girder No.	Station	Offset
11	33+34.80	-17'-2"
12	33+17.43	-8'-5 ¹ / ₂ "
13	33+17.43	0'-0 ¹ / ₂ "
14	33+17.43	8'-6 ¹ / ₂ "

GIRDER OFFSET TABLE
☉ BRG. PIER 7B

Girder No.	Station	Offset
11	32+71.90	-16'-10 ¹ / ₈ "
12	32+66.27	-8'-5 ¹ / ₂ "
13	32+60.64	0'-0 ¹ / ₂ "
14	32+55.08	8'-6 ¹ / ₂ "

GIRDER OFFSET TABLE
☉ BRG. PIER 8B

Girder No.	Station	Offset
11	31+49.40	-16'-6 ¹ / ₄ "
12	31+44.86	-8'-5 ¹ / ₂ "
13	31+40.13	0'-0 ¹ / ₂ "
14	31+35.45	8'-6 ¹ / ₂ "

GIRDER OFFSET TABLE
☉ BRG. PIER 9B

Girder No.	Station	Offset
11	30+25.53	-16'-3 ³ / ₄ "
12	31+21.87	-8'-5 ¹ / ₂ "
13	30+17.95	0'-0 ¹ / ₂ "
14	30+14.07	8'-6 ¹ / ₂ "

GIRDER OFFSET TABLE
☉ BRG. PIER 10B

Girder No.	Station	Offset
11	29+27.77	-16'-2 ¹³ / ₁₆ "
12	29+24.70	-8'-5 ¹ / ₂ "
13	29+21.38	0'-0 ¹ / ₂ "
14	29+18.10	8'-6 ¹ / ₂ "

CROSS FRAME SPACING
GIRDER 11

Cross Frames	Dimensions
F111 - F112	±19'-0 ⁵ / ₈ "
F112 - F113	18'-11 ³ / ₁₆ "
F113 - F114	18'-11 ³ / ₁₆ "
F114 - F115	18'-11 ³ / ₁₆ "
F115 - F116	18'-11 ³ / ₁₆ "
F116 - F117	23'-4 ¹ / ₁₆ "
F117 - F118	24'-10 ⁵ / ₁₆ "
F118 - F119	24'-10 ⁵ / ₁₆ "
F119 - F120	24'-10 ⁵ / ₁₆ "
F120 - F121	24'-2 ¹³ / ₁₆ "
F121 - F122	23'-1 ³ / ₄ "
F122 - F123	24'-10 ⁵ / ₁₆ "
F123 - F124	24'-10 ⁵ / ₁₆ "
F124 - F125	24'-10 ⁵ / ₁₆ "
F125 - F126	23'-0"
F126 - F127	19'-10 ¹ / ₁₆ "
F127 - F128	19'-10 ¹ / ₁₆ "
F128 - F129	19'-10 ¹ / ₁₆ "
F129 - F130	19'-10 ¹ / ₁₆ "
F130 - F131	±19'-10 ¹ / ₁₆ "

CROSS FRAME SPACING
GIRDER 12

Cross Frames	Dimensions
F90 - F91	18'-7 ¹³ / ₁₆ "
F91 - F92	19'-0"
F92 - F93	19'-0"
F93 - F94	19'-0"
F94 - F95	19'-0"
F95 - F96	23'-8"
F96 - F97	24'-10"
F97 - F98	24'-10"
F98 - F99	24'-10"
F99 - F100	23'-9"
F100 - F101	23'-0"
F101 - F102	24'-9"
F102 - F103	24'-9"
F103 - F104	24'-9"
F104 - F105	23'-2"
F105 - F106	19'-8"
F106 - F107	20'-0"
F107 - F108	20'-0"
F108 - F109	20'-0"
F109 - F110	19'-0"
F111 - F112	22'-2 ³ / ₈ "
F112 - F113	19'-0 ⁵ / ₁₆ "
F113 - F114	19'-0 ⁵ / ₁₆ "
F114 - F115	19'-0 ⁵ / ₁₆ "
F115 - F116	19'-0 ⁵ / ₁₆ "
F116 - F117	23'-5 ¹⁵ / ₁₆ "
F117 - F118	24'-11 ¹ / ₈ "
F118 - F119	24'-11 ¹ / ₈ "
F119 - F120	24'-11 ¹ / ₈ "
F120 - F121	24'-4 ⁹ / ₁₆ "
F121 - F122	23'-3 ¹ / ₁₆ "
F122 - F123	24'-11 ¹ / ₈ "
F123 - F124	24'-11 ¹ / ₈ "
F124 - F125	24'-11 ¹ / ₈ "
F125 - F126	23'-1 ¹ / ₁₆ "
F126 - F127	19'-11 ¹⁵ / ₁₆ "
F127 - F128	20'-0"
F128 - F129	20'-0"
F129 - F130	19'-11 ¹ / ₁₆ "
F130 - F131	13'-3 ¹ / ₁₆ "

CROSS FRAME SPACING
GIRDER 13

Cross Frames	Dimensions
F69 - F70	18'-7 ³ / ₁₆ "
F70 - F71	19'-0"
F71 - F72	19'-0"
F72 - F73	19'-0"
F73 - F74	19'-0"
F74 - F75	23'-6"
F75 - F76	24'-10"
F76 - F77	24'-10"
F77 - F78	24'-10"
F78 - F79	23'-9"
F79 - F80	22'-9"
F80 - F81	24'-9"
F81 - F82	24'-9"
F82 - F83	24'-9"
F83 - F84	23'-2"
F84 - F85	20'-0"
F85 - F86	20'-0"
F86 - F87	20'-0"
F87 - F88	20'-0"
F88 - F89	18'-6"
F90 - F91	22'-1"
F91 - F92	19'-1 ³ / ₁₆ "
F92 - F93	19'-1 ³ / ₁₆ "
F93 - F94	19'-1 ³ / ₁₆ "
F94 - F95	19'-1 ³ / ₁₆ "
F95 - F96	23'-9 ¹ / ₂ "
F96 - F97	24'-11 ⁹ / ₁₆ "
F97 - F98	24'-11 ⁹ / ₁₆ "
F98 - F99	24'-11 ⁹ / ₁₆ "
F99 - F100	23'-10 ¹ / ₂ "
F100 - F101	23'-1 ⁹ / ₁₆ "
F101 - F102	24'-10 ⁹ / ₁₆ "
F102 - F103	24'-10 ⁹ / ₁₆ "
F103 - F104	24'-10 ⁹ / ₁₆ "
F104 - F105	23'-3 ¹ / ₂ "
F105 - F106	19'-9 ¹ / ₄ "
F106 - F107	20'-1 ¹ / ₄ "
F107 - F108	20'-0 ¹ / ₈ "
F108 - F109	20'-0"
F109 - F110	12'-11 ³ / ₈ "

CROSS FRAME SPACING
GIRDER 14

Cross Frames	Dimensions
F69 - F70	22'-0 ¹ / ₁₆ "
F70 - F71	19'-1 ³ / ₁₆ "
F71 - F72	19'-1 ³ / ₁₆ "
F72 - F73	19'-1 ³ / ₁₆ "
F73 - F74	19'-1 ³ / ₁₆ "
F74 - F75	23'-7 ¹ / ₂ "
F75 - F76	24'-11 ⁹ / ₁₆ "
F76 - F77	24'-11 ⁹ / ₁₆ "
F77 - F78	24'-11 ⁹ / ₁₆ "
F78 - F79	23'-10 ¹ / ₂ "
F79 - F80	22'-10 ¹ / ₁₆ "
F80 - F81	24'-10 ⁹ / ₁₆ "
F81 - F82	24'-10 ⁹ / ₁₆ "
F82 - F83	24'-10 ⁹ / ₁₆ "
F83 - F84	23'-3 ¹ / ₂ "
F84 - F85	20'-1 ¹ / ₄ "
F85 - F86	20'-1 ¹ / ₄ "
F86 - F87	20'-1 ¹ / ₄ "
F87 - F88	20'-0"
F88 - F89	12'-5 ³ / ₈ "

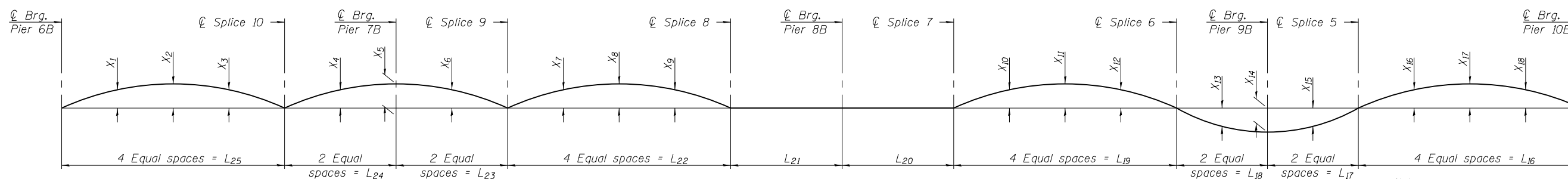
*** TOP OF WEB ELEVATIONS**

Location	☉ Brg. Pier 6B	☉ Splice 10	☉ Pier 7B	☉ Splice 9	☉ Splice 8	☉ Pier 8B	☉ Splice 7	☉ Splice 6	☉ Pier 9B	☉ Splice 5	☉ Brg. Pier 10B
Beam 12	449.45	448.34	447.79	447.16	445.31	444.34	443.34	441.08	440.03	439.09	436.68
Beam 13	449.74	448.79	448.23	447.61	445.83	444.86	443.88	441.62	440.54	439.58	437.21
Beam 14	450.17	449.23	448.77	448.12	446.36	445.38	444.48	442.15	440.99	440.04	437.75

* For fabrication only

TABLE OF "X" DIMENSIONS

Girder No.	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18
12	1 ³ / ₄ "	3"	1 ³ / ₄ "	0"	0"	0"	1"	1 ¹ / ₂ "	1"	1"	1 ¹ / ₂ "	1"	0"	0"	0"	1 ¹ / ₂ "	3 ¹ / ₄ "	1 ¹ / ₂ "
13	2 ³ / ₄ "	4"	2 ³ / ₄ "	0"	0"	0"	1 ¹ / ₂ "	2"	1 ¹ / ₂ "	1"	1 ¹ / ₂ "	1"	0"	0"	0"	0"	0"	0"
14	3 ¹ / ₄ "	4 ¹ / ₂ "	3 ¹ / ₄ "	1 ¹ / ₂ "	1"	1 ¹ / ₂ "	2"	2 ³ / ₄ "	2"	1"	1 ¹ / ₂ "	1"	1 ¹ / ₂ "	3 ¹ / ₄ "	1 ¹ / ₂ "	0"	0"	0"



CAMBER DIAGRAM

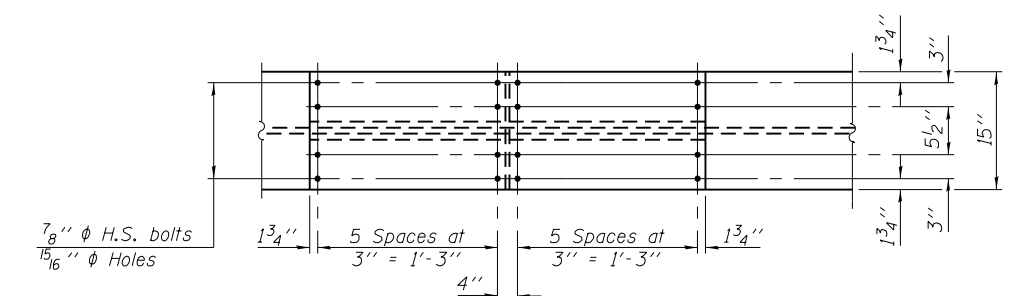
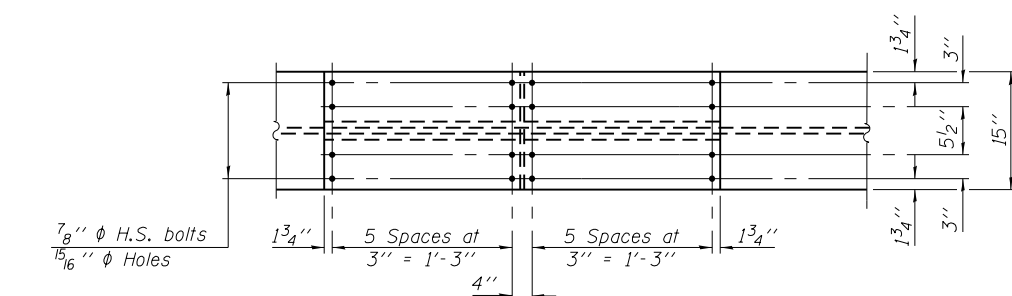
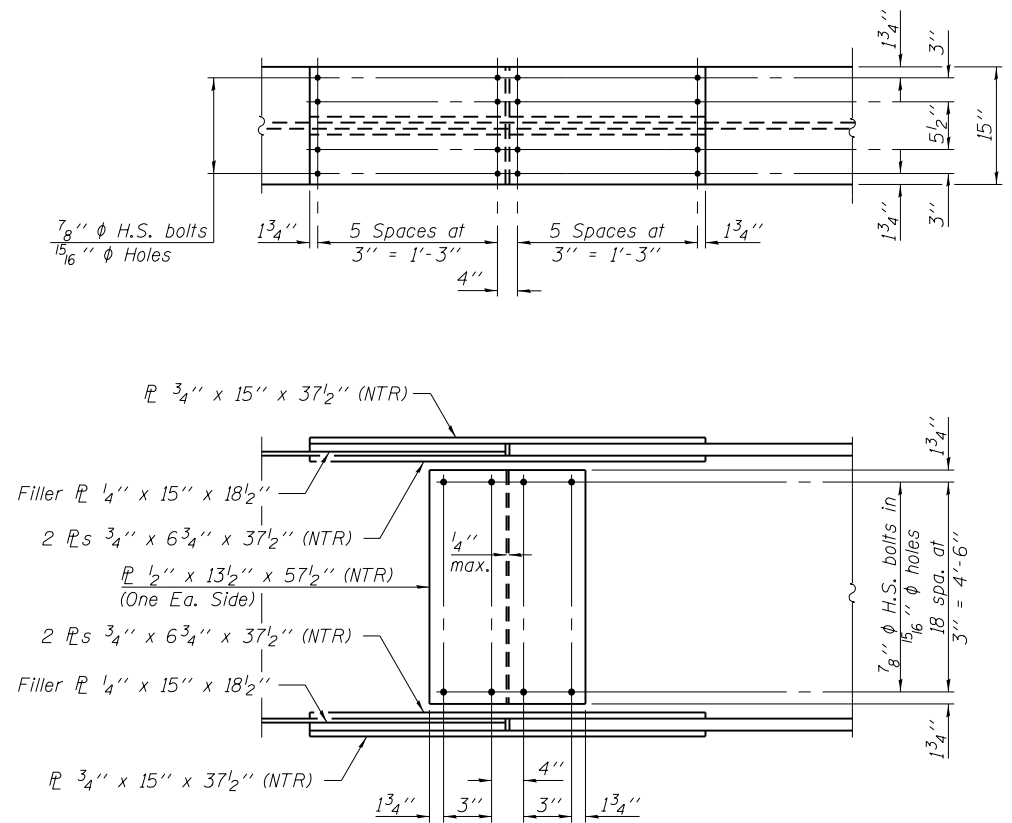
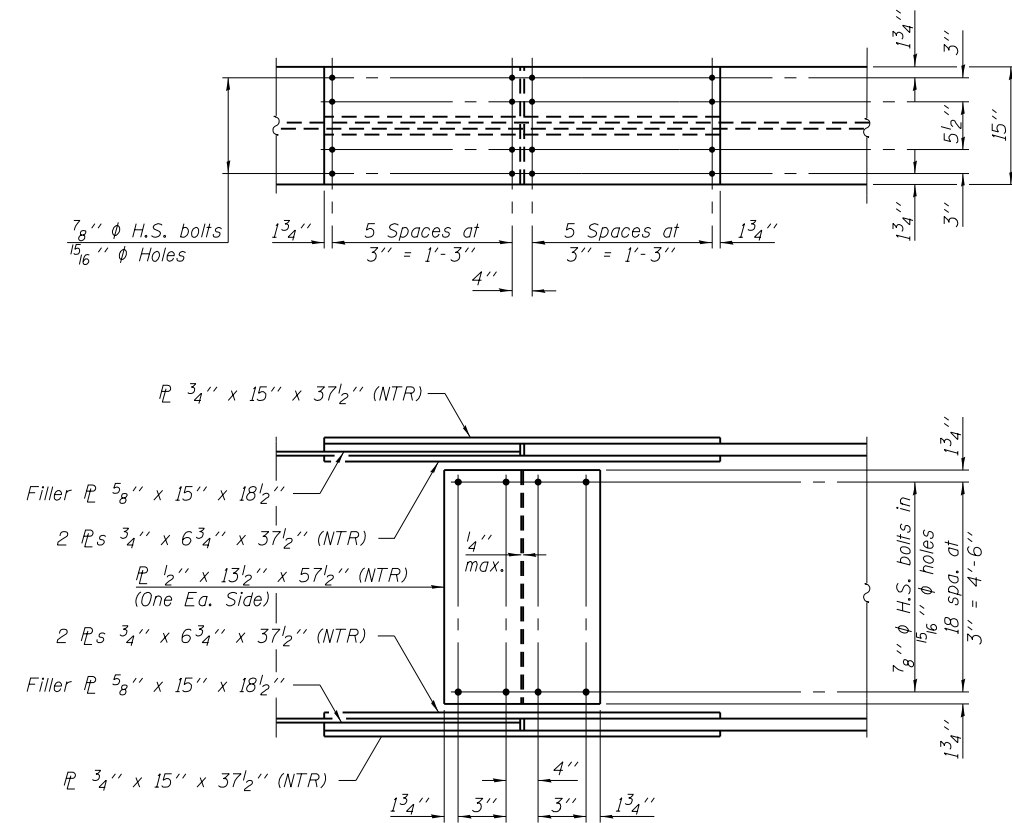
Notes:
 For location of "L" dimensions, see sheet 71 of 143.
 Girder offsets are measured perpendicular to MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.

**CROSS FRAME
DIM. a TABLE**

Cross Frame	Type	Dim a
F69	13	9'-1 ³ / ₈ "
F70	9	8'-6"
F71	9	8'-6"
F72	9	8'-6"
F73	9	8'-6"
F74	11	8'-6"
F75	9	8'-6"
F76	9	8'-6"
F77	9	8'-6"
F78	9	8'-6"
F79	11	8'-6"
F80	9	8'-6"
F81	9	8'-6"
F82	9	8'-6"
F83	9	8'-6"
F84	11	8'-6"
F85	9	8'-6"
F86	9	8'-6"
F87	9	8'-6"
F88	9	8'-6"
F89	13	10'-5 ¹ / ₈ "
F90	13	9'-1 ¹ / ₂ "
F91	9	8'-6"
F92	9	8'-6"
F93	9	8'-6"
F94	9	8'-6"
F95	11	8'-6"
F96	9	8'-6"
F97	9	8'-6"
F98	9	8'-6"
F99	9	8'-6"
F100	11	8'-6"

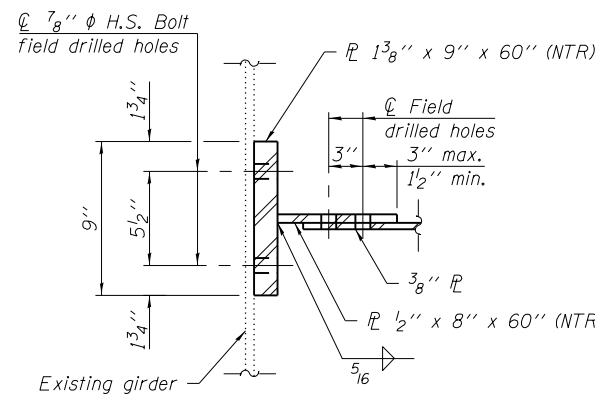
**CROSS FRAME
DIM. a TABLE**

Cross Frame	Type	Dim a
F101	9	8'-6"
F102	9	8'-6"
F103	9	8'-6"
F104	9	8'-6"
F105	11	8'-6"
F106	9	8'-6"
F107	9	8'-6"
F108	9	8'-6"
F109	9	8'-6"
F110	13	10'-5 ¹ / ₈ "
F111	14	8'-4 ¹ / ₄ "
F112	10	7'-9 ⁷ / ₁₆ "
F113	10	7'-9 ³ / ₁₆ "
F114	10	7'-9 ³ / ₁₆ "
F115	10	7'-9 ¹⁵ / ₁₆ "
F116	12	7'-10 ³ / ₁₆ "
F117	10	7'-10 ⁹ / ₁₆ "
F118	10	7'-11"
F119	10	7'-11 ¹ / ₂ "
F120	10	8'-0 ¹ / ₁₆ "
F121	12	8'-0 ⁴ / ₁₆ "
F122	10	8'-1 ⁵ / ₁₆ "
F123	10	8'-2"
F124	10	8'-2 ¹³ / ₁₆ "
F125	10	8'-3 ¹ / ₁₆ "
F126	12	8'-4 ¹ / ₂ "
F127	10	8'-5 ¹ / ₄ "
F128	10	8'-6 ¹ / ₁₆ "
F129	10	8'-7 ¹ / ₁₆ "
F130	10	8'-10 ⁹ / ₁₆ "
F131	14	11'-2 ¹³ / ₁₆ "



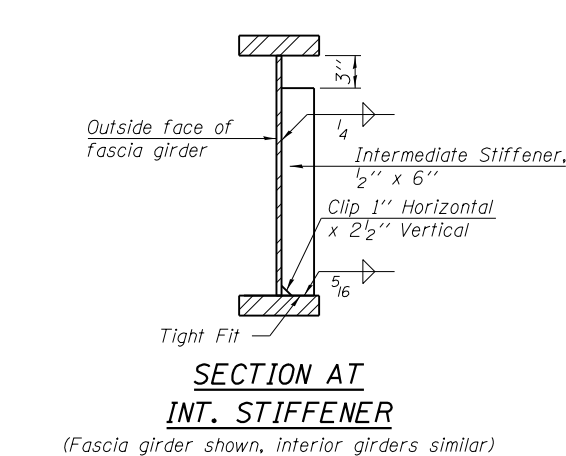
FIELD SPLICES 5 & 10
(6 Required)

FIELD SPLICES 6, 7, 8, & 9
(12 Required)



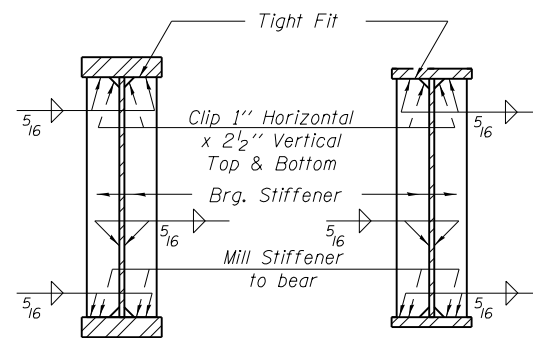
SECTION A-A

Notes:
 All cross frames or diaphragms between beams or girders shall be installed with erection pins and bolts in accordance with erection plan approved by the Engineer. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
 All bolts in cross frames shall be 7/8" ϕ in 1/16" ϕ holes. Two hardened washers shall be required for each set of oversized holes.
 Remove existing stiffener or connection plate if in conflict with new connection.
 For location of Section A-A, see sheet 74 of 143.
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.



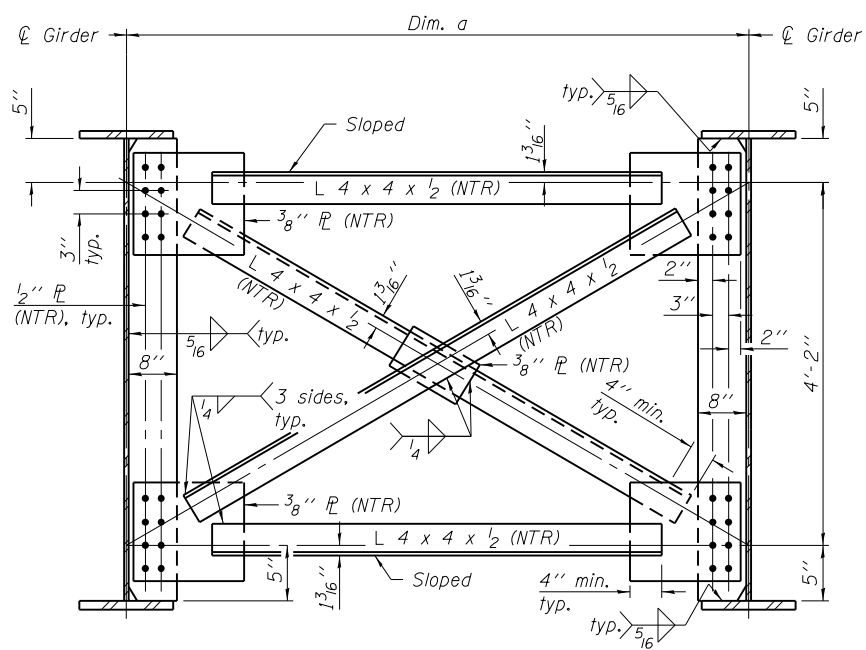
**SECTION AT
INT. STIFFENER**

(Fascia girder shown, interior girders similar)



**SECTION
AT PIERS 7B, 8B AND 9B**

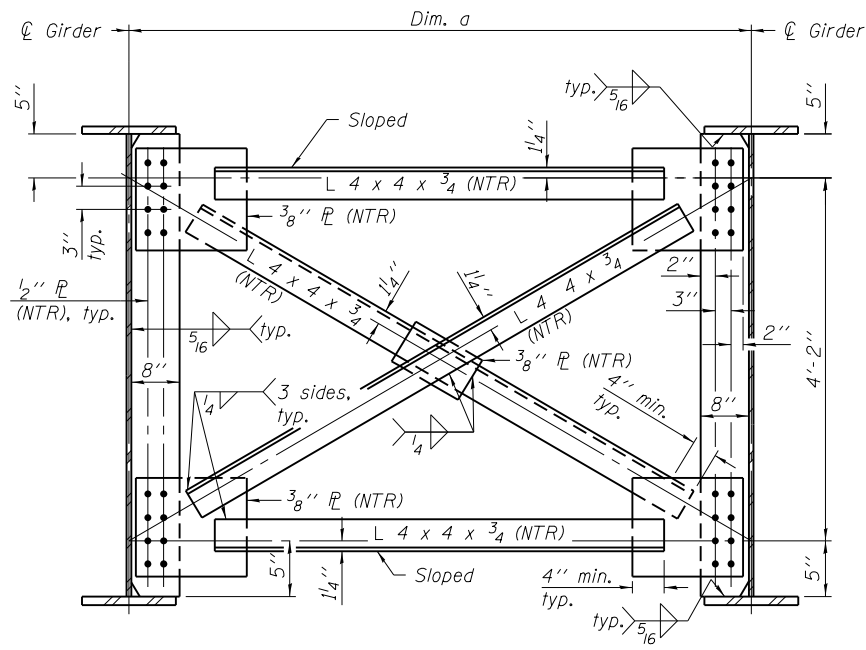
**SECTION
AT PIERS 6B AND 10B**



AT NEW GIRDER

AT NEW GIRDER

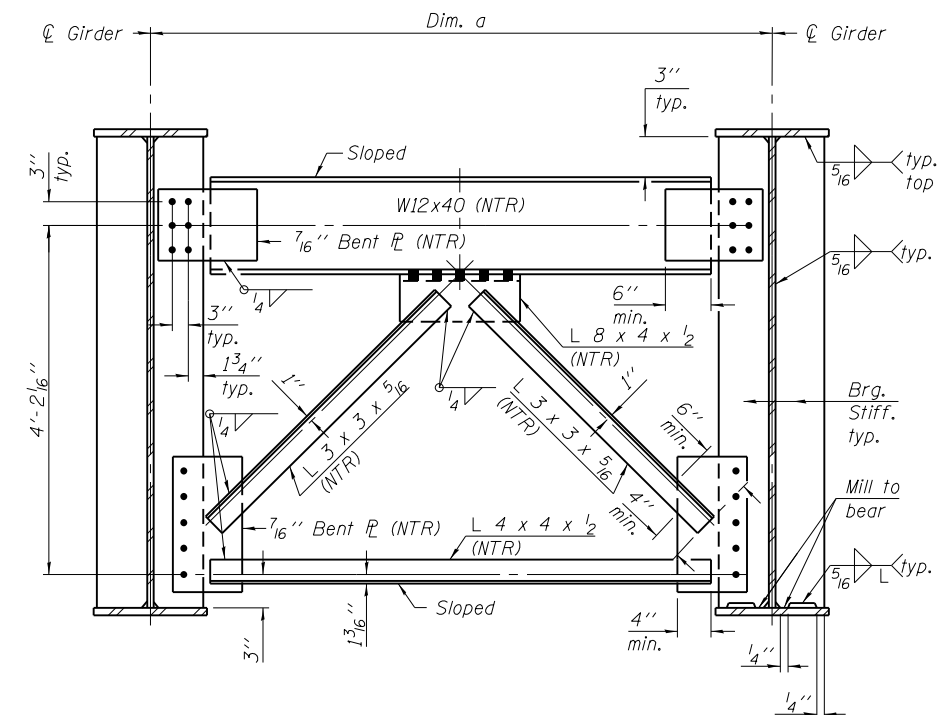
CROSS FRAME - TYPE 9
(32 Required)



AT NEW GIRDER

AT NEW GIRDER

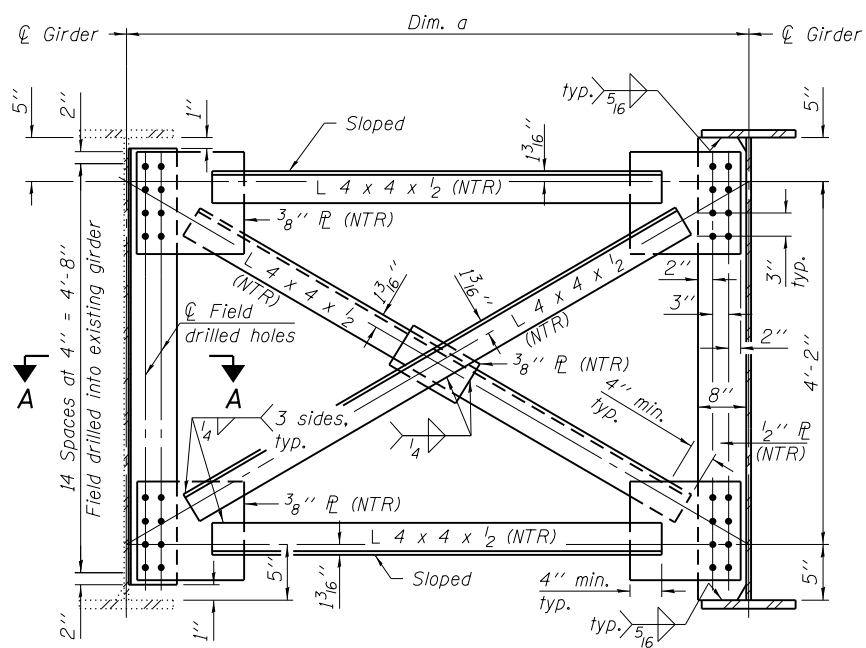
CROSS FRAME - TYPE 11
(6 Required)



AT NEW GIRDER

AT NEW GIRDER

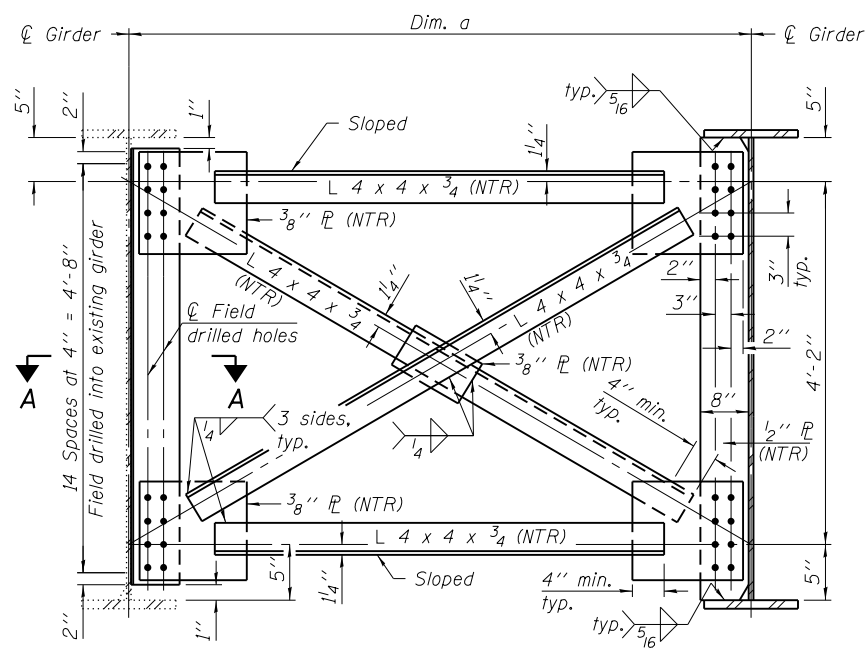
CROSS FRAME - TYPE 13
(4 Required)



AT EXISTING GIRDER

AT NEW GIRDER

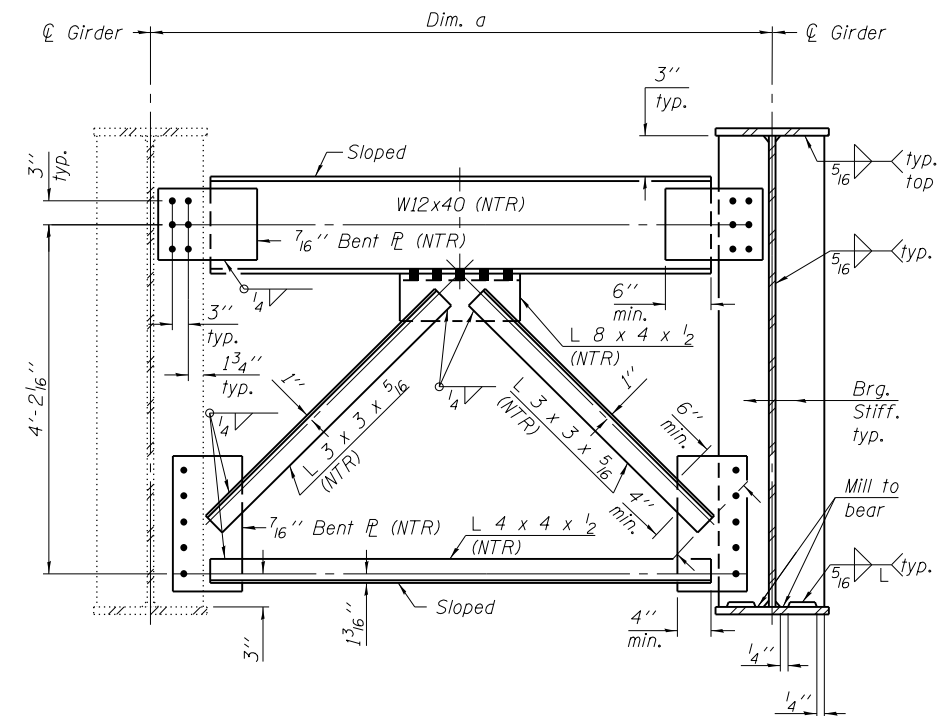
CROSS FRAME - TYPE 10
(16 Required)



AT EXISTING GIRDER

AT NEW GIRDER

CROSS FRAME - TYPE 12
(3 Required)



AT EXISTING GIRDER

AT NEW GIRDER

CROSS FRAME - TYPE 14
(2 Required)

Notes:
For Section A-A, see sheet 73 of 143.
Load carrying components designated as "NTR" shall conform to the Impact Testing Requirement, Zone 2.

GIRDER MOMENT TABLE - GIRDER 12

INTERIOR GIRDER MOMENT TABLE								
		0.4 Sp. B7	Pier 7B	0.5 Sp. B8	Pier 8B	0.5 Sp. B9	Pier 9B	0.6 Sp. B10
I_s	(in ⁴)	39,700	59,278	51,356	59,278	51,356	59,278	39,700
S_s	(in ³)	1,241	1,817	1,586	1,817	1,586	1,817	1,241
S_t	(in ³)	37.5	60.9	51.6	60.9	51.6	60.9	37.5
ρ	(k/')	1.414	1.476	1.436	1.454	1.413	1.431	1.347
$M\phi$	('k)	833	1,851	804	1,815	838	1,854	860
M_L	('k)	671	840	619	804	546	763	506
M_I	('k)	168	168	155	161	137	153	127
$^5_3 [M_L + M_I]$	('k)	1,398	1,680	1,290	1,608	1,138	1,527	1,055
M_a	('k)	2,900	4,590	2,722	4,450	2,569	4,395	2,490
M_{b1}	('k)	0.206	0.355	0.346	0.254	11.270	0.152	5.394
$f_s \rho$ non-comp	(ksi)	8.05	12.22	6.08	11.99	6.34	12.24	8.32
$f_s \ ^5_3 [M_L + M_I]$	(ksi)	13.52	11.0	9.76	10.62	8.61	10.08	10.20
f_t	(ksi)	0.066	0.070	2.406	0.050	2.621	0.030	1.726
f_s (Overload)	(ksi)	21.57	23.32	15.84	22.61	14.95	22.32	18.52
f_s (Total)	(ksi)	28.04	30.32	20.59	29.39	19.44	29.02	24.08
F_{cr} (Overload)	(ksi)	40.00	40.00	40.00	40.00	40.00	40.00	40.00
F_{cr}	(ksi)	46.45	49.87	43.49	49.90	42.46	49.93	38.77

INTERIOR GIRDER REACTION TABLE						
		Pier 6B	Pier 7B	Pier 8B	Pier 9B	Pier 10B
$R\phi$	(k)	50.3	181.8	178.7	179.6	55.4
R_L	(k)	49.8	76.7	77.6	67.6	42.2
R_I	(k)	14.9	19.2	19.4	16.9	12.7
R_{Total}	(k)	115.0	277.7	275.7	264.1	110.3

GIRDER MOMENT TABLE - GIRDER 13

INTERIOR GIRDER MOMENT TABLE								
		0.4 Sp. B7	Pier 7B	0.5 Sp. B8	Pier 8B	0.5 Sp. B9	Pier 9B	0.6 Sp. B10
I_s	(in ⁴)	39,700	59,278	51,356	59,278	51,356	59,278	39,700
S_s	(in ³)	1,241	1,817	1,586	1,817	1,586	1,817	1,241
S_t	(in ³)	37.5	60.9	51.6	60.9	51.6	60.9	37.5
ρ	(k/')	1.422	1.495	1.466	1.495	1.466	1.495	1.422
$M\phi$	('k)	814	1,807	777	1,812	818	1,850	844
M_L	('k)	644	816	649	840	642	786	618
M_I	('k)	161	163	162	168	162	157	154
$^5_3 [M_L + M_I]$	('k)	1,342	1,632	1,352	1,680	1,340	1,572	1,287
M_a	('k)	2,803	4,471	2,768	4,540	2,805	4,449	2,770
M_{b1}	('k)	1.781	0.355	10.277	0.254	11.481	0.152	6.008
$f_s \rho$ non-comp	(ksi)	7.87	11.93	5.88	11.97	6.19	12.22	8.16
$f_s \ ^5_3 [M_L + M_I]$	(ksi)	12.98	10.78	10.23	11.10	10.14	10.38	12.44
f_t	(ksi)	0.57	0.07	2.39	0.05	2.67	0.03	1.92
f_s (Overload)	(ksi)	20.85	22.71	16.11	23.07	16.33	22.60	20.60
f_s (Total)	(ksi)	27.11	29.52	20.94	29.99	21.23	29.38	26.78
F_{cr} (Overload)	(ksi)	40.00	40.00	40.00	40.00	40.00	40.00	40.00
F_{cr}	(ksi)	44.02	49.87	43.59	49.90	42.93	49.93	38.71

INTERIOR GIRDER REACTION TABLE						
		Pier 6B	Pier 7B	Pier 8B	Pier 9B	Pier 10B
$R\phi$	(k)	49.4	179.8	180.8	181.1	48.2
R_L	(k)	47.5	73.8	73.2	69.9	44.1
R_I	(k)	14.2	18.4	18.3	17.5	13.2
R_{Total}	(k)	111.1	272.0	272.3	268.5	105.5

GIRDER MOMENT TABLE - GIRDER 14

EXTERIOR GIRDER MOMENT TABLE								
		0.4 Sp. B7	Pier 7B	0.5 Sp. B8	Pier 8B	0.5 Sp. B9	Pier 9B	0.6 Sp. B10
I_s	(in ⁴)	39,700	59,278	51,356	59,278	51,356	59,278	39,700
S_s	(in ³)	1,241	1,817	1,586	1,817	1,586	1,817	1,241
S_t	(in ³)	37.5	60.9	51.6	60.9	51.6	60.9	37.5
ρ	(k/')	1.393	1.466	1.437	1.466	1.437	1.466	1.393
$M\phi$	(k/')	807	1,711	748	1,719	800	1,775	824
M_L	('k)	817	968	785	1,032	786	958	764
M_I	('k)	204	194	196	206	197	192	191
$^5_3 [M_L + M_I]$	('k)	1,702	1,937	1,635	2,063	1,638	1,917	1,592
M_a	('k)	3,262	4,742	3,098	4,917	3,169	4,800	3,141
M_{b1}	('k)	6.625	19.793	18.533	22.888	19.092	14.109	10.656
$f_s \rho$ non-comp	(ksi)	7.80	11.30	5.66	11.35	6.05	11.72	7.97
$f_s \ ^5_3 [M_L + M_I]$	(ksi)	16.46	12.79	12.37	13.62	12.39	12.66	15.39
f_t	(ksi)	2.12	3.90	4.31	4.51	4.44	2.78	3.41
f_s (Overload)	(ksi)	24.26	24.09	18.03	24.97	18.44	24.38	23.36
f_s (Total)	(ksi)	31.54	31.32	23.44	32.46	23.97	31.69	30.37
F_{cr} (Overload)	(ksi)	40.00	40.00	40.00	40.00	40.00	40.00	40.00
F_{cr}	(ksi)	32.91	42.97	39.62	42.18	39.55	45.04	34.22

EXTERIOR GIRDER REACTION TABLE						
		Pier 6B	Pier 7B	Pier 8B	Pier 9B	Pier 10B
$R\phi$	(k)	48.3	163.4	165.6	167.2	47.2
R_L	(k)	42.3	81.0	77.7	61.0	36.2
R_I	(k)	12.7	20.2	19.4	15.3	10.9
R_{Total}	(k)	103.3	264.6	262.7	243.5	94.3

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).

S_t : Section modulus of one flange plate for lateral flange bending (in³).

ρ : Un-factored non-composite dead load (kips/ft.).

$M\phi$: Un-factored moment due to non-composite dead load (kip-ft.).

M_L : Un-factored live load moment (kip-ft.).

M_I : Un-factored moment due to impact (kip-ft.).

M_a : Factored design moment (kip-ft.).

$1.3 [M\phi + \frac{5}{3} (M_L + M_I)]$

M_{b1} : Factored lateral bending moment for flange plate (kip-ft.).

f_t : Factored calculated normal stress at the edge of flange due to lateral bending (ksi).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).

$M\phi + \frac{5}{3} (M_L + M_I)$

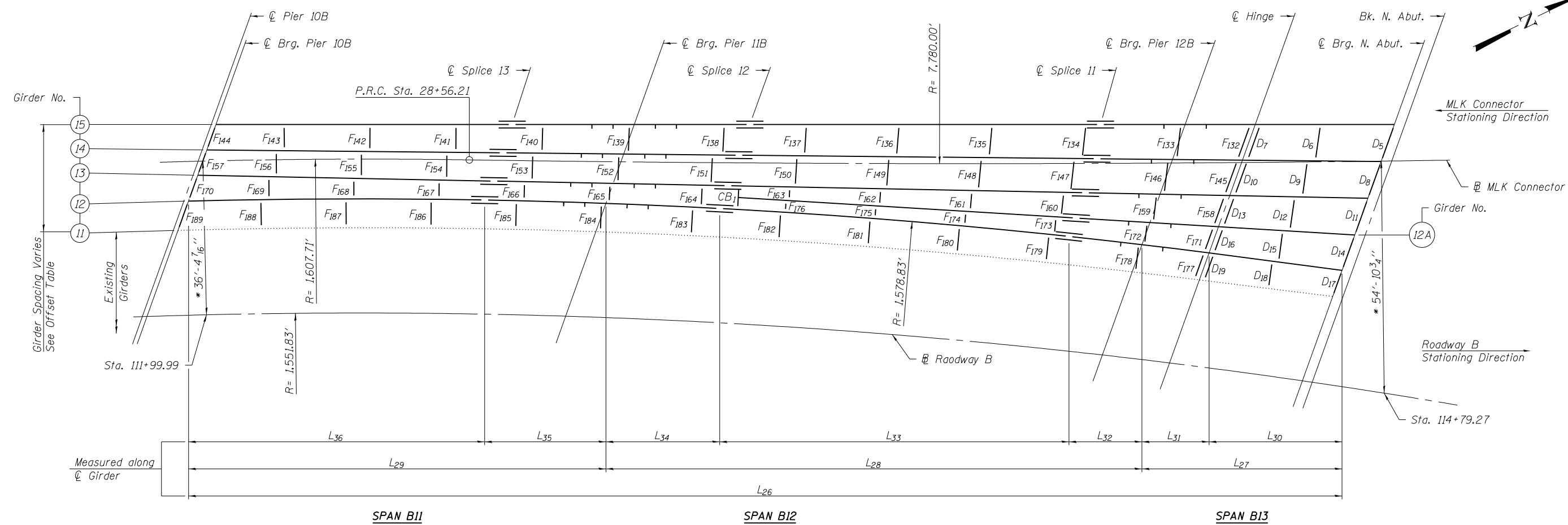
f_s (Total): Sum of stresses as computed from the moments below (ksi).

$1.3 [M\phi + \frac{5}{3} (M_L + M_I)]$

F_{cr} (Overload): Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5 (ksi.).

F_{cr} : Critical average flange stress (smaller of F_{cr1} or F_{cr2} for partially braced flanges and F_y for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4) (ksi).

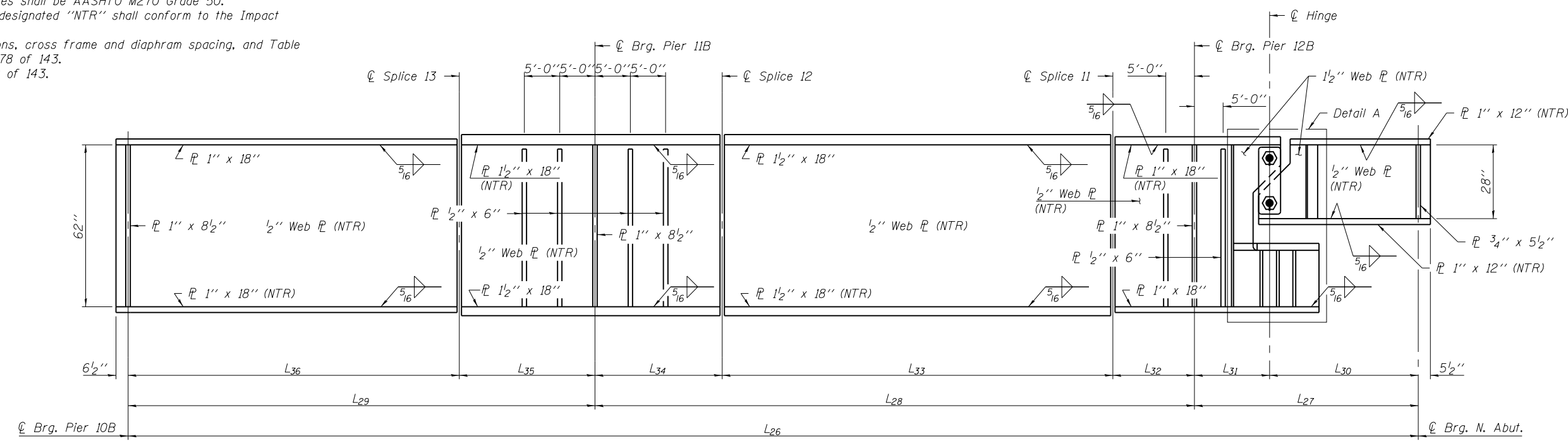
Note:
 M_L and R_L include the effects of centrifugal force and superelevation.



*Measured perpendicular to MLK Connector

Notes:
 All flanges, web plates, bearing stiffeners, intermediate stiffeners, diaphragms, cross frames, and splice plates shall be AASHTO M270 Grade 50.
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
 For Table of "L" Dimensions, cross frame and diaphragm spacing, and Table of Girder Offsets see sheet 78 of 143.
 For Detail A, see sheet 79 of 143.

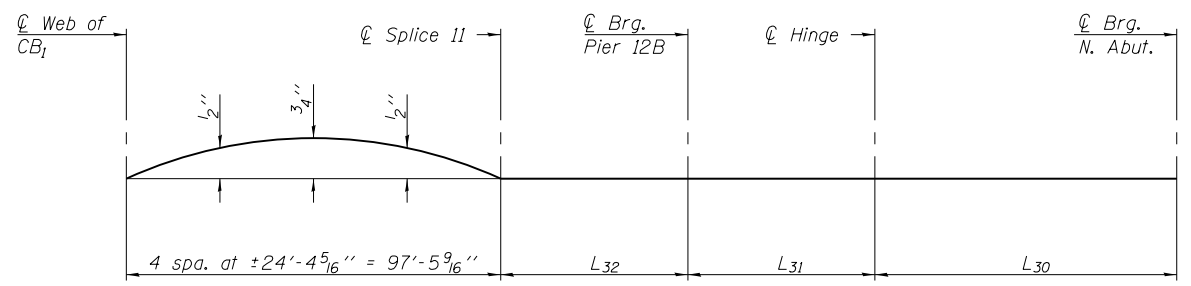
FRAMING PLAN



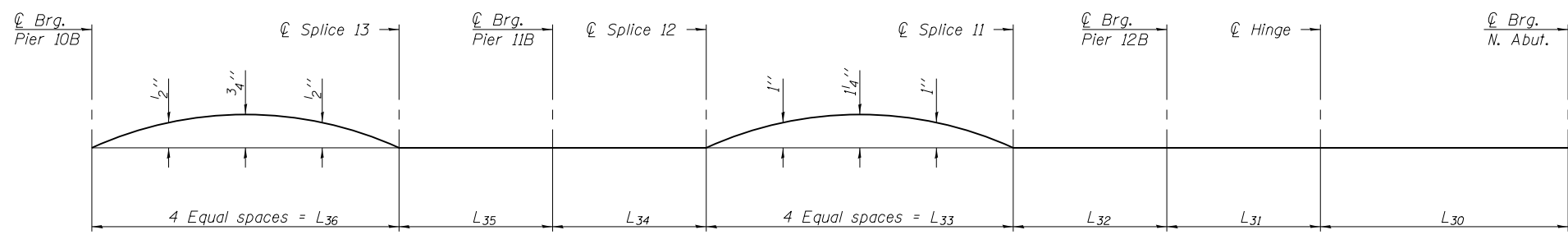
GIRDER ELEVATION - GIRDER NOS. 12, 13, 14 & 15

"NTR" denotes plates to which notch toughness requirements are applicable.

FILE NAME = X:\1309400-MLK\Cad\15082200-76009.dgn 	DESIGNED - J.J. Derner	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS - UNIT 4 STRUCTURE NO. 082-0010 SHEET NO. 76 OF 143 SHEETS	F.A.I. R.T.E. - 64	SECTION - 82-(1,4)B-1	COUNTY - ST. CLAIR	TOTAL SHEETS - 406	SHEET NO. - 268	
	USER NAME = elagemann	CHECKED - E.M. Lagemann			REVISED	CONTRACT NO. 76C09				
	PLOT SCALE =	DRAWN - J.N. Bailey			REVISED	ILLINOIS FED. AID PROJECT				
	PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann			REVISED					



CAMBER DIAGRAM - GIRDER 12A

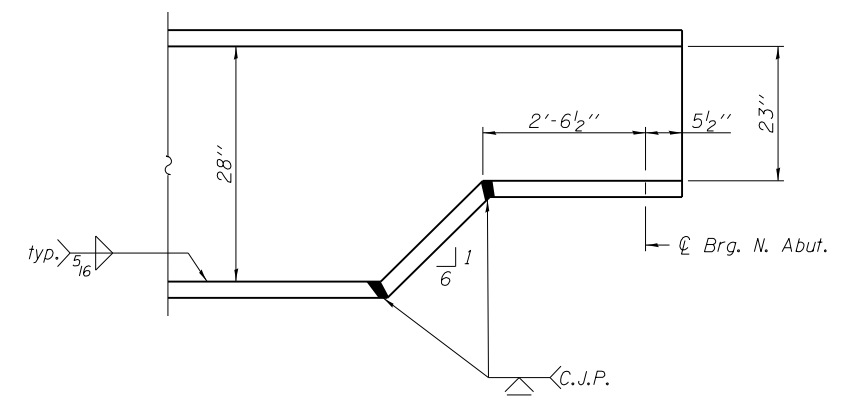


CAMBER DIAGRAM - GIRDER NOS. 12, 13, 14 AND 15

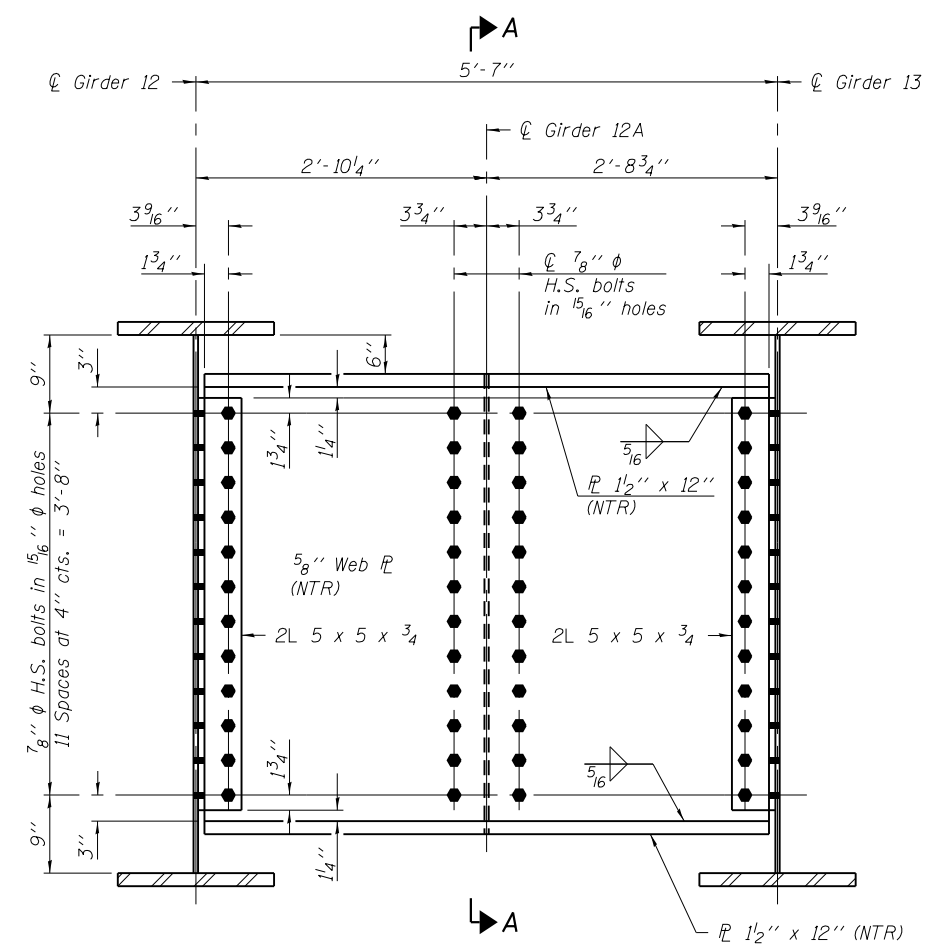
*** TOP OF WEB ELEVATIONS**

Location	℄ Brg. Pier 10B	℄ Splice 13	℄ Brg. Pier 11B	℄ Splice 12	End of Girder 12A	℄ Splice 11	℄ Brg. Pier 12B	℄ Hinge	℄ Brg. N. Abut.
Beam 12	436.60	434.16	433.19	432.28	---	429.39	428.83	428.32	427.32
Beam 12A	---	---	---	---	432.33	429.50	428.95	428.44	427.54
Beam 13	436.97	434.45	433.51	432.60	---	429.64	429.10	428.59	427.76
Beam 14	437.35	434.92	433.95	433.03	---	429.83	429.27	428.76	427.98
Beam 15	437.73	435.38	434.39	433.44	---	430.09	429.45	428.93	428.19

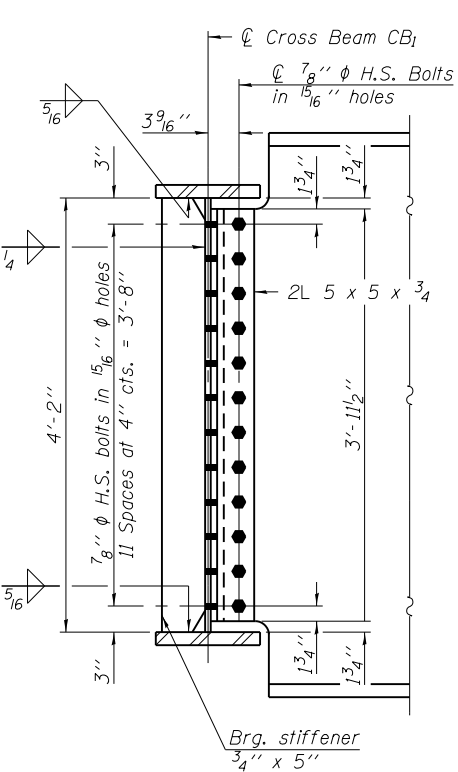
* For fabrication only



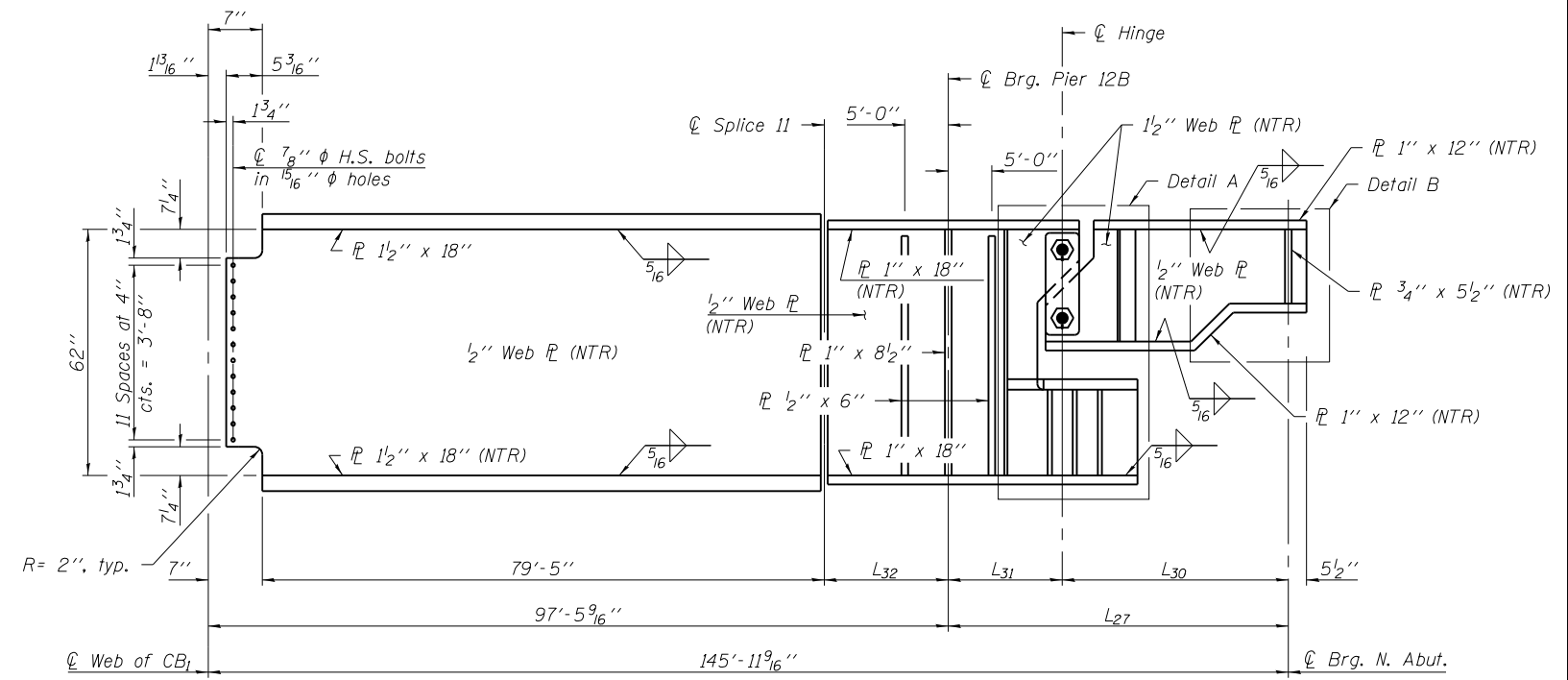
DETAIL B



CROSS BEAM DETAIL, CB₁
(Girder 12A and connections not shown for clarity)



SECTION A-A



GIRDER 12A ELEVATION
"NTR" denotes plates to which notch toughness requirements are applicable.

TABLE OF "L" DIMENSIONS

Location	L ₂₆	L ₂₇	L ₂₈	L ₂₉	L ₃₀	L ₃₁	L ₃₂	L ₃₃	L ₃₄	L ₃₅	L ₃₆	L ₃₇	L ₃₈
11	273'-7 ¹ / ₈ "	47'-8 ¹ / ₈ "	127'-1 ¹ / ₁₆ "	98'-9 ⁵ / ₁₆ "	31'-9"	15'-11 ⁷ / ₈ "	12'-11 ⁷ / ₈ "	87'-3 ⁵ / ₁₆ "	26'-10 ¹ / ₂ "	29'-9 ¹⁵ / ₁₆ "	69'-0 ¹ / ₈ "	---	---
Stage Const. Jt.	273'-6 ¹ / ₁₆ "	47'-8 ³ / ₁₆ "	127'-1 ¹ / ₁₆ "	98'-8 ¹ / ₁₆ "	---	---	---	---	---	---	---	---	---
12	273'-5 ⁹ / ₁₆ "	47'-8 ³ / ₁₆ "	127'-0 ¹⁵ / ₁₆ "	98'-8 ³ / ₁₆ "	31'-8 ³ / ₈ "	15'-11 ¹³ / ₁₆ "	17'-4 ⁵ / ₁₆ "	82'-9 ³ / ₄ "	26'-10 ⁷ / ₈ "	28'-8 ³ / ₁₆ "	70'-0"	1'-1 ¹³ / ₁₆ "	1'-1 ⁷ / ₈ "
12A	145'-11 ⁹ / ₁₆ "	48'-6"	---	---	32'-3 ³ / ₈ "	16'-2 ⁷ / ₈ "	17'-5 ⁹ / ₁₆ "	---	---	---	---	1'-2"	1'-2 ¹ / ₈ "
13	276'-7 ¹ / ₁₆ "	49'-1 ⁹ / ₁₆ "	129'-3 ¹ / ₁₆ "	98'-2 ¹ / ₁₆ "	32'-8 ³ / ₁₆ "	16'-5 ³ / ₈ "	17'-7 ¹ / ₁₆ "	84'-6 ³ / ₁₆ "	27'-1 ⁹ / ₁₆ "	28'-2 ¹ / ₁₆ "	70'-0"	1'-2 ¹ / ₈ "	1'-2 ³ / ₈ "
Profile Grade	278'-6 ¹ / ₁₆ "	49'-7 ⁵ / ₈ "	130'-0 ¹⁵ / ₁₆ "	98'-9 ¹ / ₂ "	---	---	---	---	---	---	---	---	---
14	277'-6 ¹ / ₄ "	49'-3 ⁹ / ₁₆ "	129'-8 ³ / ₄ "	98'-5 ¹ / ₁₆ "	32'-9 ¹ / ₂ "	16'-6 ¹ / ₁₆ "	17'-10 ¹ / ₈ "	84'-7 ¹³ / ₁₆ "	27'-2 ¹³ / ₁₆ "	28'-5 ¹⁵ / ₁₆ "	70'-0"	1'-2 ¹ / ₈ "	1'-2 ⁷ / ₁₆ "
15	278'-5 ¹ / ₁₆ "	49'-5 ⁵ / ₈ "	130'-2 ⁵ / ₁₆ "	98'-10"	32'-10 ⁷ / ₈ "	16'-6 ³ / ₄ "	20'-0"	82'-10 ¹ / ₄ "	27'-4 ¹ / ₁₆ "	28'-10"	70'-0"	1'-2 ³ / ₁₆ "	1'-2 ⁹ / ₁₆ "

GIRDER OFFSET TABLE
☐ BRG. PIER 10B

Girder No.	Station	Offset
11	29+25.52	-16'-2 ¹³ / ₁₆ "
12	29+22.82	-9'-4 ⁷ / ₁₆ "
13	29+20.46	-3'-3 ¹³ / ₁₆ "
14	29+18.16	2'-7 ¹ / ₂ "
15	29+15.88	8'-6 ⁵ / ₁₆ "

GIRDER OFFSET TABLE
☐ BRG. PIER 11B

Girder No.	Station	Offset
11	28+26.10	-16'-6 ⁵ / ₁₆ "
12	28+23.79	-9'-10 ³ / ₈ "
13	28+22.16	-5'-1 ⁵ / ₈ "
14	28+19.74	1'-10 ³ / ₁₆ "
15	28+17.32	8'-10 ³ / ₁₆ "

GIRDER OFFSET TABLE
☐ BRG. PIER 12B

Girder No.	Station	Offset
11	26+99.66	-25'-8 ³ / ₁₆ "
12	26+97.33	-19'-3 ³ / ₁₆ "
12A	26+95.43	-14'-0 ¹ / ₂ "
13	26+92.99	-7'-4 ³ / ₈ "
14	26+90.00	0'-10 ¹ / ₈ "
15	26+86.98	9'-1 ¹ / ₁₆ "

GIRDER OFFSET TABLE
☐ HINGE

Girder No.	Station	Offset
11	26+83.85	-27'-8 ³ / ₁₆ "
12	26+81.52	-21'-3 ³ / ₄ "
12A	26+79.26	-15'-1 ⁹ / ₁₆ "
13	26+76.57	7'-9 ⁹ / ₁₆ "
14	26+73.49	0'-6 ³ / ₄ "
15	26+70.40	8'-11 ⁹ / ₁₆ "

GIRDER OFFSET TABLE
☐ BRG. N. ABUT.

Girder No.	Station	Offset
11	26+52.50	-31'-10 ³ / ₈ "
12	26+50.23	-25'-8 ⁵ / ₈ "
12A	26+47.14	-17'-4 ¹³ / ₁₆ "
13	26+43.93	-8'-9 ¹ / ₈ "
14	26+40.71	-0'-1 ³ / ₁₆ "
15	26+37.46	8'-7 ⁵ / ₁₆ "

CROSS FRAME/DIAPHRAGM
SPACING GIRDER 11

Cross Frames	Dimensions
D17 - D18	±15'-3 ¹ / ₁₆ "
D18 - D19	15'-3 ⁹ / ₁₆ "
D19 - F177	2'-3 ¹ / ₁₆ "
F177 - F178	14'-0 ¹³ / ₁₆ "
F178 - F179	21'-3 ¹ / ₈ "
F179 - F180	21'-1 ¹ / ₁₆ "
F180 - F181	21'-1 ³ / ₈ "
F181 - F182	21'-1 ³ / ₈ "
F182 - F183	20'-8 ³ / ₄ "
F183 - F184	21'-5 ⁷ / ₈ "
F184 - F185	20'-0 ¹ / ₈ "
F185 - F186	20'-0 ¹ / ₂ "
F186 - F187	20'-0 ⁹ / ₁₆ "
F187 - F188	20'-0 ¹ / ₂ "
F188 - F189	±19'-8 ¹ / ₂ "

CROSS FRAME/DIAPHRAGM
SPACING GIRDER 12

Cross Frames	Dimensions
D14 - D15	15'-1 ¹³ / ₁₆ "
D15 - D16	15'-4 ¹ / ₁₆ "
D16 - F171	2'-3 ¹ / ₁₆ "
F171 - F172	14'-2 ¹ / ₂ "
F172 - F173	21'-5 ¹ / ₁₆ "
F173 - F174	21'-3 ⁹ / ₁₆ "
F174 - F175	21'-3 ³ / ₈ "
F175 - F176	21'-2 ³ / ₄ "
F176 - CB1	11'-3 ⁵ / ₈ "
CB1 - F164	8'-7 ¹ / ₁₆ "
F164 - F165	21'-8 ⁷ / ₈ "
F165 - F166	20'-1 ⁹ / ₁₆ "
F166 - F167	20'-1 ¹ / ₂ "
F167 - F168	20'-1 ¹ / ₁₆ "
F168 - F169	20'-0 ¹ / ₁₆ "
F169 - F170	19'-0 ³ / ₈ "
D17 - D18	16'-7 ³ / ₄ "
D18 - D19	13'-10 ³ / ₄ "
D19 - F177	2'-3 ¹ / ₁₆ "
F177 - F178	15'-7 ¹ / ₄ "
F178 - F179	21'-4 ³ / ₁₆ "
F179 - F180	21'-2 ¹ / ₂ "
F180 - F181	21'-2 ¹ / ₂ "
F181 - F182	21'-2 ¹ / ₂ "
F182 - F183	20'-9 ¹ / ₈ "
F183 - F184	21'-7 ¹ / ₁₆ "
F184 - F185	20'-1 ¹ / ₄ "
F185 - F186	20'-1 ⁹ / ₁₆ "
F186 - F187	20'-1 ⁹ / ₁₆ "
F187 - F188	20'-1 ⁹ / ₁₆ "
F188 - F189	17'-1 ⁵ / ₁₆ "

CROSS FRAME/DIAPHRAGM
SPACING GIRDER 12A

Cross Frames	Dimensions
D11 - D12	15'-4 ¹ / ₄ "
D12 - D13	15'-8 ¹³ / ₁₆ "
D13 - F158	2'-4 ¹ / ₈ "
F158 - F159	14'-3 ⁵ / ₁₆ "
F159 - F160	21'-9 ¹ / ₁₆ "
F160 - F161	21'-6 ¹ / ₁₆ "
F161 - F162	21'-5 ⁵ / ₈ "
F162 - F163	21'-4 ³ / ₄ "
F163 - CB1	12'-0 ³ / ₁₆ "
D14 - D15	17'-0 ¹ / ₄ "
D15 - D16	14'-0 ³ / ₄ "
D16 - F171	2'-4 ¹ / ₈ "
F171 - F172	15'-8 ³ / ₈ "
F172 - F173	21'-6 ¹ / ₈ "
F173 - F174	21'-4 ³ / ₈ "
F174 - F175	21'-3 ¹ / ₁₆ "
F175 - F176	21'-3 ¹ / ₁₆ "
F176 - CB1	11'-3 ⁵ / ₁₆ "

CROSS FRAME/DIAPHRAGM
SPACING GIRDER 13

Cross Frames	Dimensions
D8 - D9	15'-6"
D9 - D10	15'-11 ¹³ / ₁₆ "
D10 - F145	2'-4 ¹ / ₂ "
F145 - F146	14'-3 ¹ / ₂ "
F146 - F147	22'-1 ³ / ₈ "
F147 - F148	21'-9 ⁷ / ₈ "
F148 - F149	21'-8 ⁷ / ₁₆ "
F149 - F150	21'-7 ³ / ₁₆ "
F150 - F151	19'-10 ¹ / ₄ "
F151 - F152	22'-0 ³ / ₁₆ "
F152 - F153	20'-3 ¹ / ₈ "
F153 - F154	20'-2 ⁹ / ₁₆ "
F154 - F155	20'-1 ¹ / ₁₆ "
F155 - F156	20'-0 ¹ / ₁₆ "
F156 - F157	18'-7 ³ / ₈ "
D11 - D12	17'-3 ¹ / ₁₆ "
D12 - D13	14'-2 ¹ / ₈ "
D13 - F158	2'-4 ¹ / ₂ "
F158 - F159	16'-0 ¹ / ₈ "
F159 - F160	21'-11 ⁵ / ₈ "
F160 - F161	21'-8 ¹ / ₄ "
F161 - F162	21'-6 ⁷ / ₈ "
F162 - F163	21'-5 ⁵ / ₈ "
F163 - CB1	12'-0 ⁵ / ₈ "
CB1 - F164	8'-8 ¹ / ₈ "
F164 - F165	21'-9 ¹ / ₁₆ "
F165 - F166	20'-2 ⁵ / ₁₆ "
F166 - F167	20'-2 ¹ / ₁₆ "
F167 - F168	20'-1 ³ / ₄ "
F168 - F169	20'-1 ⁹ / ₁₆ "
F169 - F170	16'-9 ³ / ₈ "

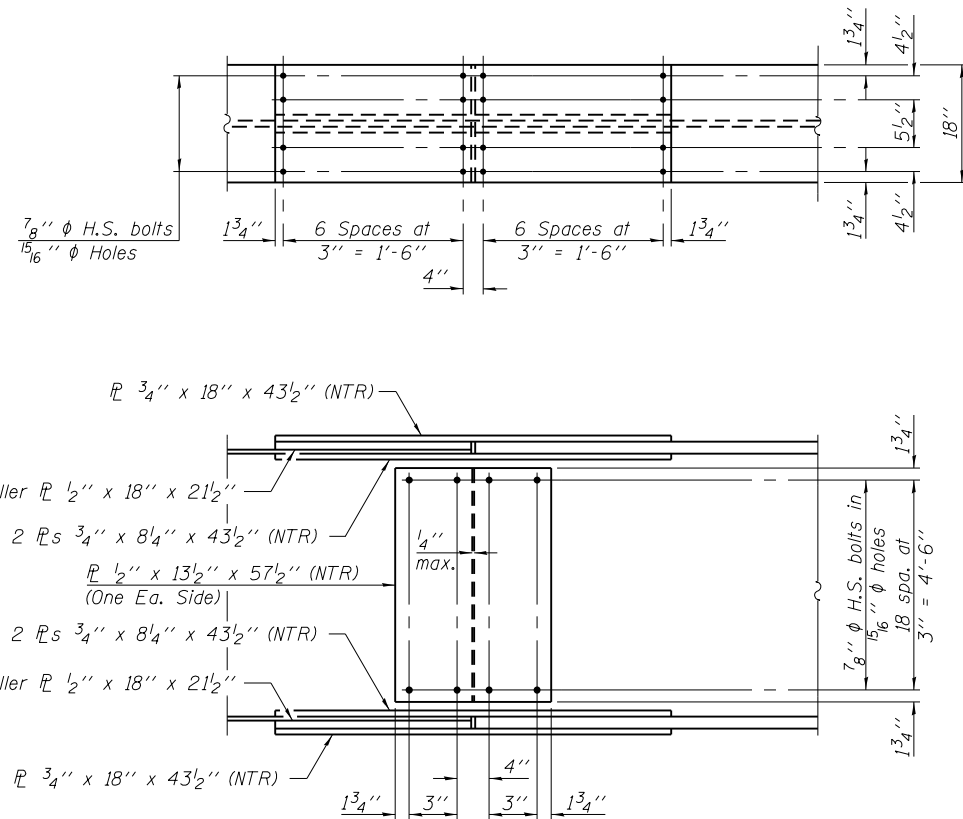
CROSS FRAME/DIAPHRAGM
SPACING GIRDER 14

Cross Frames	Dimensions
D5 - D6	15'-6 ⁵ / ₈ "
D6 - D7	16'-0 ¹ / ₁₆ "
D7 - F132	2'-4 ⁹ / ₁₆ "
F132 - F133	14'-4 ³ / ₁₆ "
F133 - F134	22'-3 ⁷ / ₈ "
F134 - F135	22'-0 ¹ / ₈ "
F135 - F136	21'-10 ⁹ / ₁₆ "
F136 - F137	21'-9 ¹ / ₄ "
F137 - F138	19'-3 ⁵ / ₁₆ "
F138 - F139	22'-3 ¹ / ₁₆ "
F139 - F140	20'-5"
F140 - F141	20'-4 ¹ / ₁₆ "
F141 - F142	20'-3 ¹ / ₂ "
F142 - F143	20'-2 ¹ / ₁₆ "
F143 - F144	18'-3 ¹ / ₈ "
D8 - D9	17'-5"
D9 - D10	14'-2 ¹ / ₁₆ "
D10 - F145	2'-4 ⁹ / ₁₆ "
F145 - F146	16'-3 ¹ / ₁₆ "
F146 - F147	22'-3"
F147 - F148	21'-11 ³ / ₈ "
F148 - F149	21'-9 ⁷ / ₈ "
F149 - F150	21'-8 ¹ / ₁₆ "
F150 - F151	20'-0"
F151 - F152	22'-1 ¹ / ₂ "
F152 - F153	20'-4 ¹ / ₁₆ "
F153 - F154	20'-3 ⁹ / ₁₆ "
F154 - F155	20'-2 ³ / ₈ "
F155 - F156	20'-1 ⁵ / ₈ "
F156 - F157	16'-4 ³ / ₈ "

CROSS FRAME/DIAPHRAGM
SPACING GIRDER 15

Cross Frames	Dimensions
D5 - D6	17'-5 ⁵ / ₈ "
D6 - D7	14'-2 ³ / ₄ "
D7 - F132	2'-4 ¹ / ₁₆ "
F132 - F133	16'-4 ⁵ / ₁₆ "
F133 - F134	22'-5 ⁹ / ₁₆ "
F134 - F135	22'-1 ¹ / ₁₆ "
F135 - F136	22'-0 ¹ / ₁₆ "
F136 - F137	21'-10 ¹ / ₁₆ "
F137 - F138	19'-5 ¹ / ₈ "
F138 - F139	22'-4 ³ / ₄ "
F139 - F140	20'-6 ¹ / ₈ "
F140 - F141	20'-5 ¹ / ₂ "
F141 - F142	20'-4 ¹ / ₂ "
F142 - F143	20'-3 ⁸ / ₈ "
F143 - F144	16'-1 ³ / ₁₆ "

Notes:
 For location of "L" dimensions, see sheet 76 of 143.
 Girder offsets are measured perpendicular to MLK Connector. Negative offset denotes left of baseline, positive offset denotes right of baseline.
 For location of L₃₇ and L₃₈ dimensions, see sheet 79 of 143.

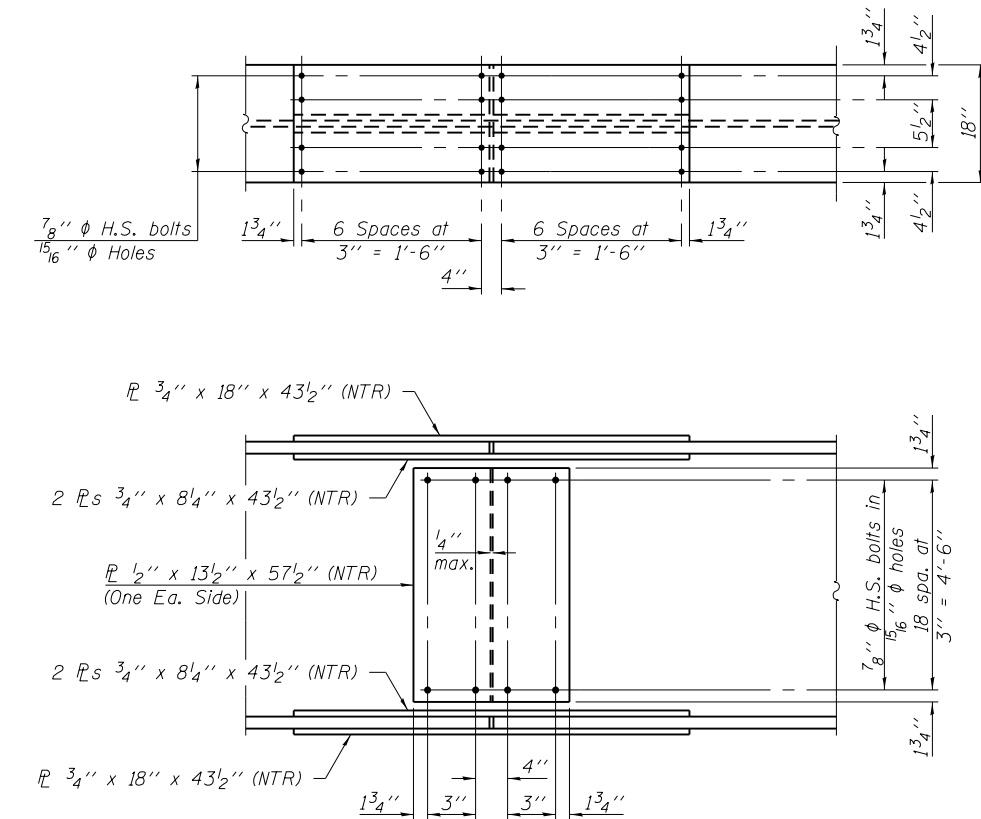


CROSS FRAME
DIM. a TABLE

Cross Frame	Type	Dim. a
F132	19	8'-11 1/16"
F133	17	8'-4"
F134	15	8'-1 3/16"
F135	15	7'-10 3/8"
F136	15	7'-7 1/16"
F137	15	7'-5"
F138	15	7'-2 5/8"
F139	17	6'-11 5/16"
F140	15	6'-9 1/16"
F141	15	6'-7"
F142	15	6'-4 9/16"
F143	15	6'-2 3/16"
F144	19	6'-4 1/2"
F145	19	8'-10 3/4"
F146	17	8'-3 3/4"
F147	15	8'-1"
F148	15	7'-10 5/16"
F149	15	7'-7 5/8"
F150	15	7'-5"
F151	15	7'-2 5/8"
F152	17	7'-0"
F153	15	6'-9 9/16"
F154	15	6'-7 5/16"
F155	15	6'-4 13/16"
F156	15	6'-2 1/16"
F157	19	6'-4 1/2"
F158	19	7'-9 3/16"
F159	17	6'-9 5/8"
F160	15	5'-10 3/4"

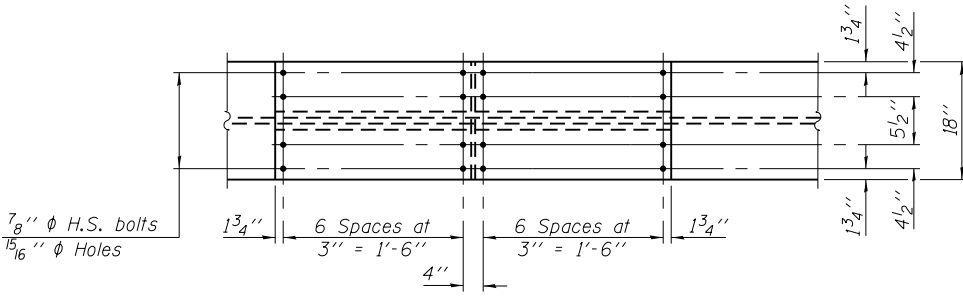
CROSS FRAME
DIM. a TABLE

Cross Frame	Type	Dim. a
F161	15	5'-0"
F162	15	4'-1 5/16"
F163	15	3'-2 1/16"
F164	15	5'-3 1/16"
F165	17	4'-9 1/16"
F166	15	4'-6 3/8"
F167	15	4'-6 3/4"
F168	15	4'-10 1/4"
F169	15	5'-4 13/16"
F170	19	6'-5 7/8"
F171	19	6'-6 1/16"
F172	17	5'-4 5/8"
F173	15	4'-3 1/16"
F174	15	3'-6 3/8"
F175	15	3'-0 1/2"
F176	15	2'-10 1/8"
F177	20	6'-9 5/8"
F178	18	6'-7 7/8"
F179	16	6'-8 1/16"
F180	16	6'-8 5/16"
F181	16	6'-8 9/16"
F182	16	6'-8 3/4"
F183	16	6'-9"
F184	18	6'-9 1/4"
F185	16	6'-9 1/2"
F186	16	6'-9 1/16"
F187	16	6'-9 5/16"
F188	16	6'-10 3/16"
F189	20	7'-4 1/16"

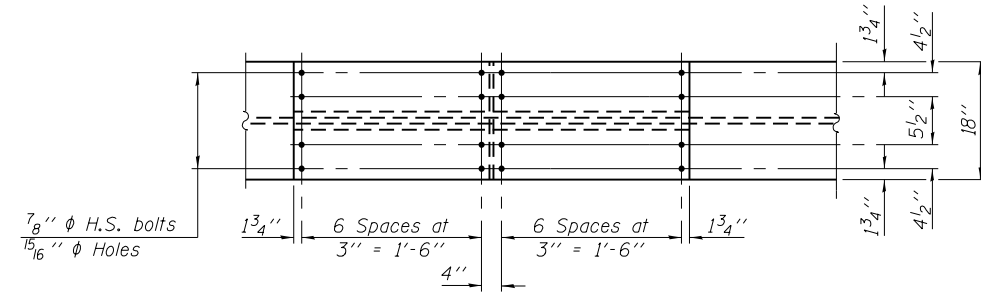


DIAPHRAGM
DIM. a TABLE

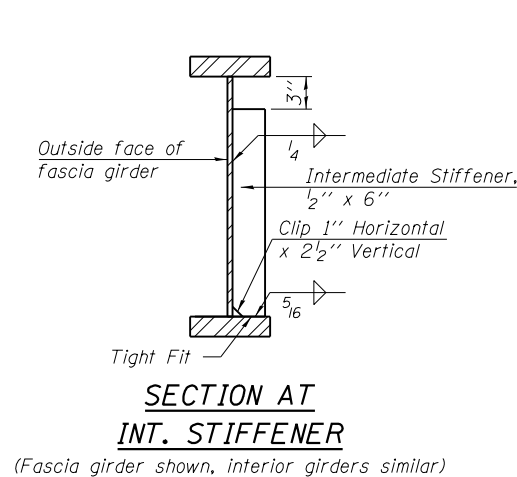
Diaphragm	Type	Dim. a
D5	23	9'-3 9/16"
D6	21	8'-8 3/16"
D7	23	8'-11 3/8"
D8	23	9'-2 15/16"
D9	21	8'-7 1/8"
D10	23	8'-11 1/16"
D11	23	9'-2 9/16"
D12	21	8'-1 1/8"
D13	23	7'-10 3/8"
D14	23	8'-10 9/16"
D15	21	7'-5 15/16"
D16	23	6'-8"
D17	24	6'-6 5/8"
D18	22	6'-6 1/4"
D19	24	6'-9 1/2"



FIELD SPLICES 11 & 13
(9 Required)

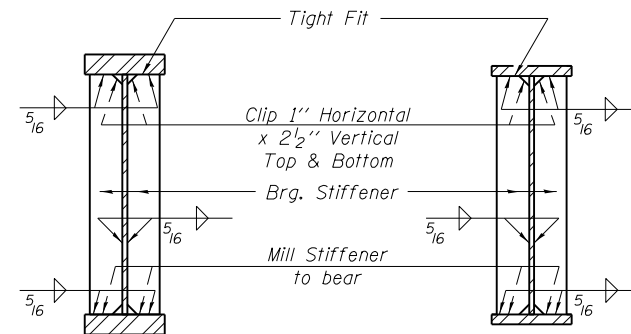


FIELD SPLICE 12
(4 Required)

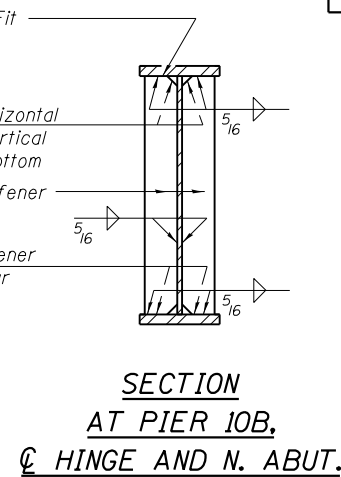


SECTION AT INT. STIFFENER

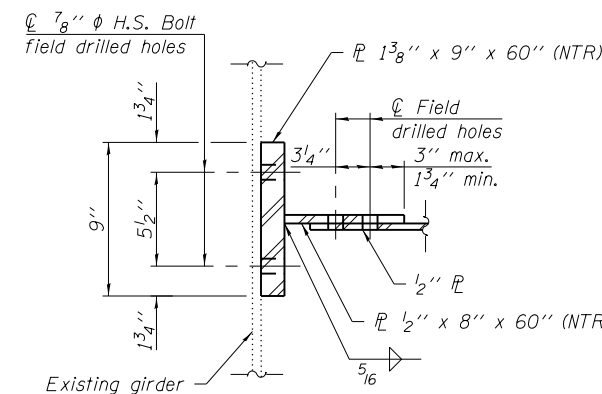
(Fascia girder shown, interior girders similar)



SECTION AT PIERS 11B AND 12B

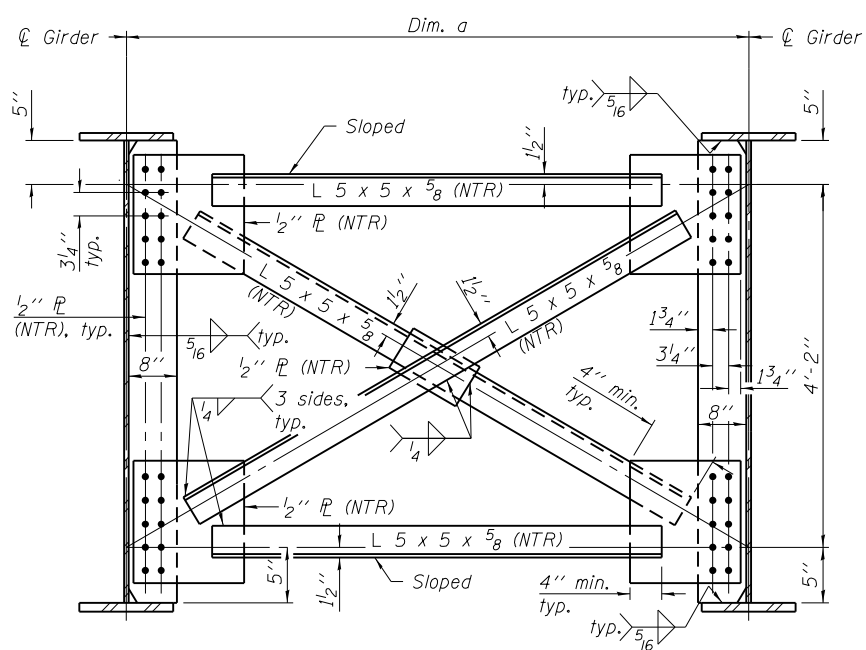


SECTION AT PIER 10B, HINGE AND N. ABUT.



SECTION A-A

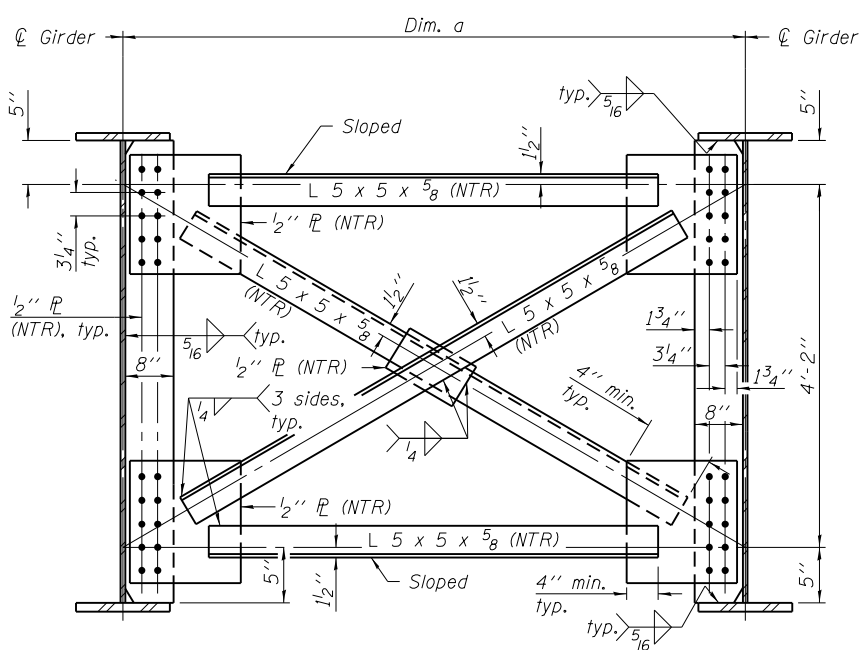
Notes:
 All cross frames or diaphragms between beams or girders shall be installed with erection pins and bolts in accordance with erection plan approved by the Engineer. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
 All bolts in cross frames shall be 1" diameter H.S. Bolt in 1 3/16" diameter holes.
 Two hardened washers shall be required for each set of oversized holes.
 Remove existing stiffener or connection plate if in conflict with new connection.
 For location of Section A-A, see sheet 81 of 143.
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.



AT NEW GIRDER

AT NEW GIRDER

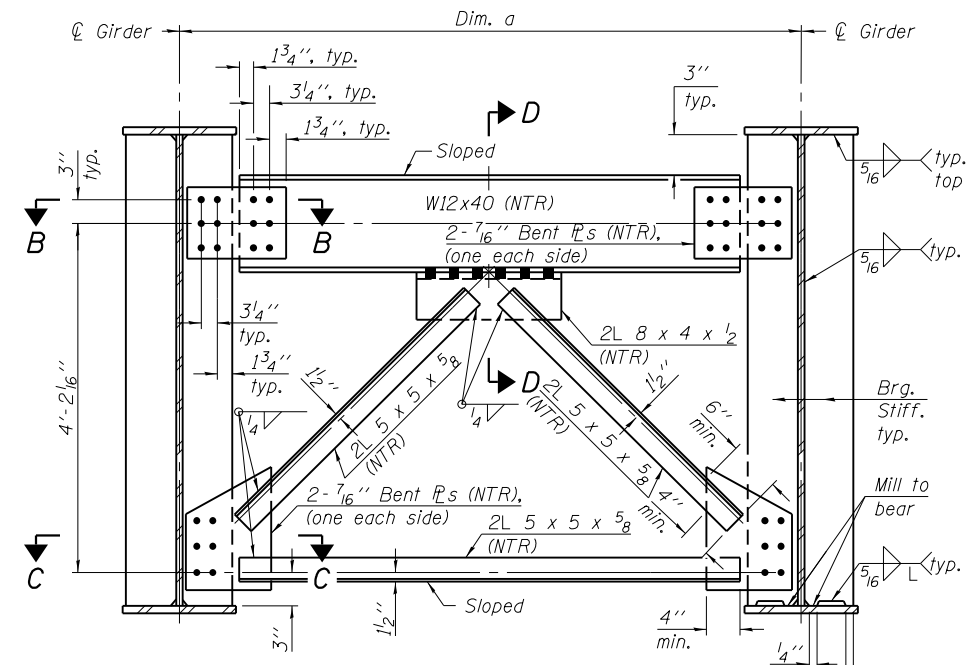
CROSS FRAME - TYPE 15
(31 Required)



AT NEW GIRDER

AT NEW GIRDER

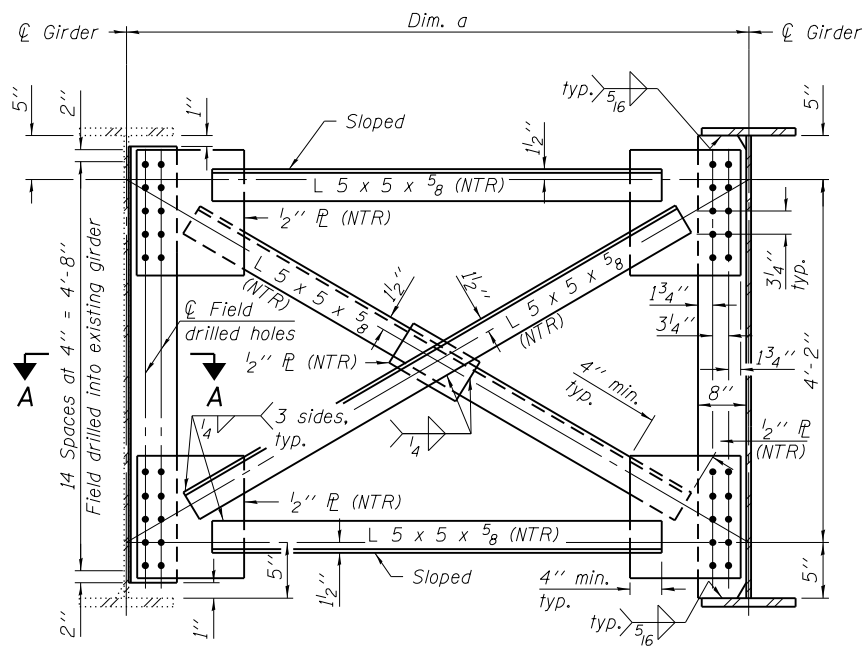
CROSS FRAME - TYPE 17
(7 Required)



AT NEW GIRDER

AT NEW GIRDER

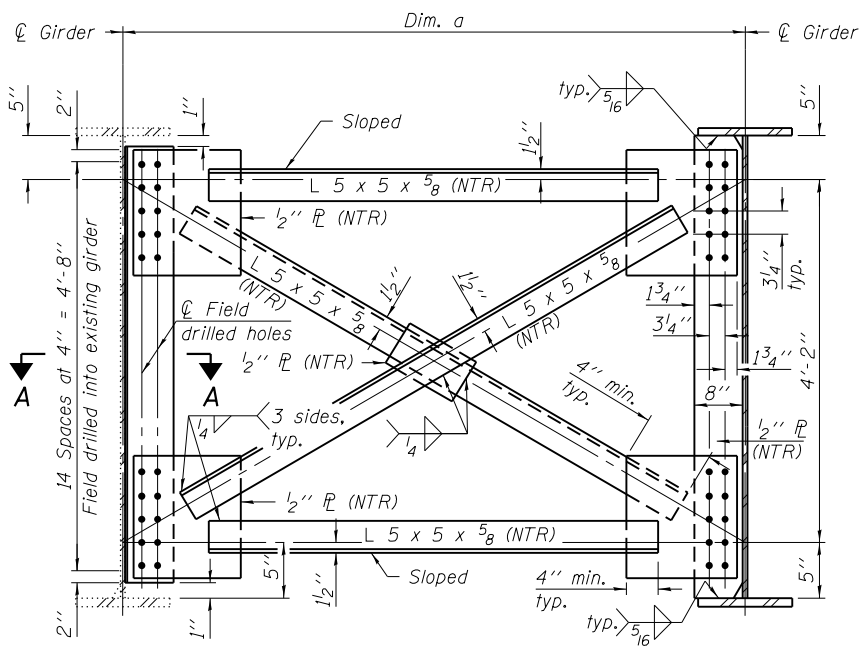
CROSS FRAME - TYPE 19
(7 Required)



AT EXISTING GIRDER

AT NEW GIRDER

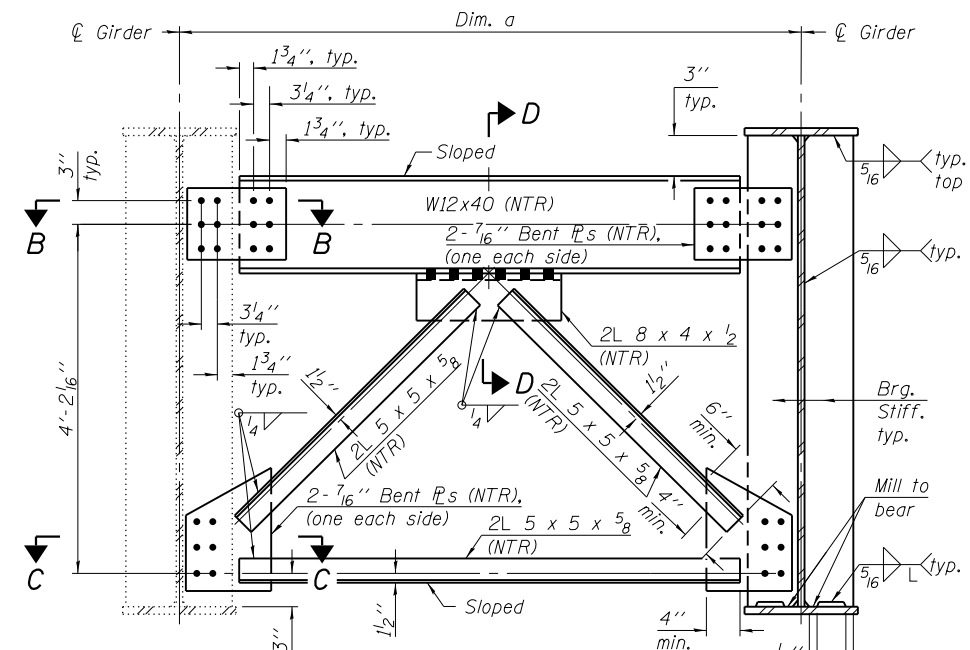
CROSS FRAME - TYPE 16
(9 Required)



AT EXISTING GIRDER

AT NEW GIRDER

CROSS FRAME - TYPE 18
(2 Required)

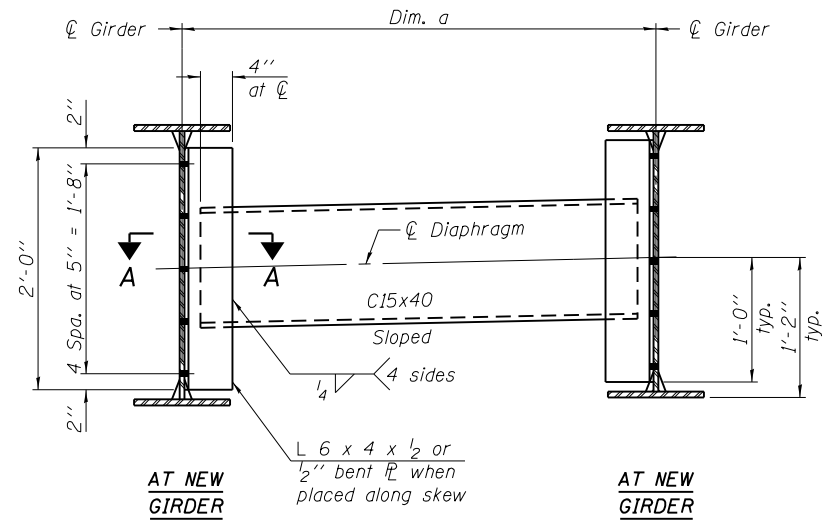


AT EXISTING GIRDER

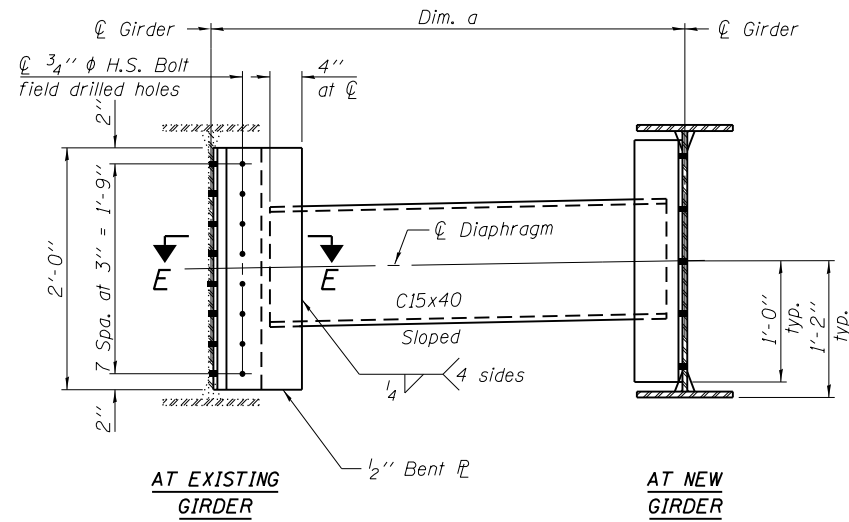
AT NEW GIRDER

CROSS FRAME - TYPE 20
(2 Required)

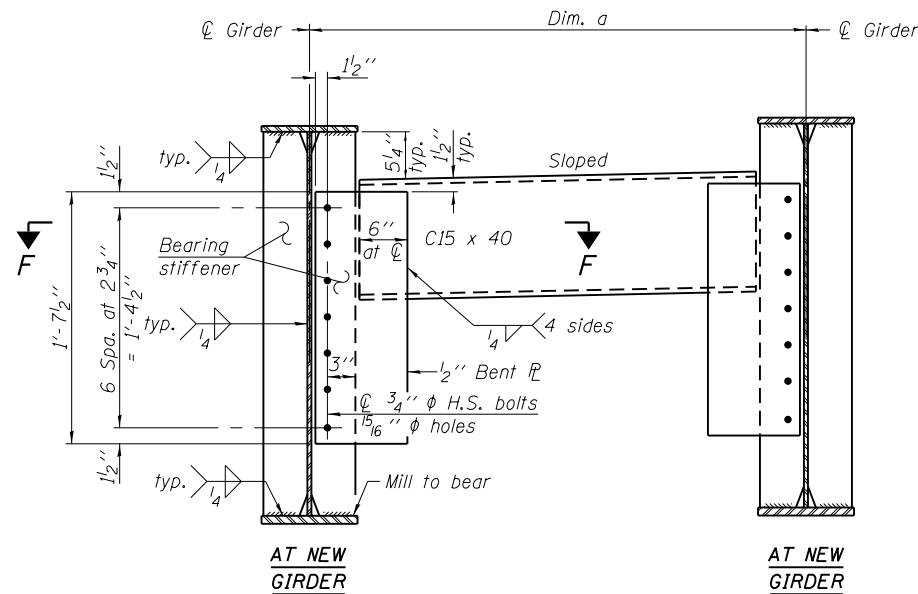
Notes:
Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
For Section A-A, see sheet 80 of 143.
For Sections B-B, C-C and D-D, see sheet 82 of 143.



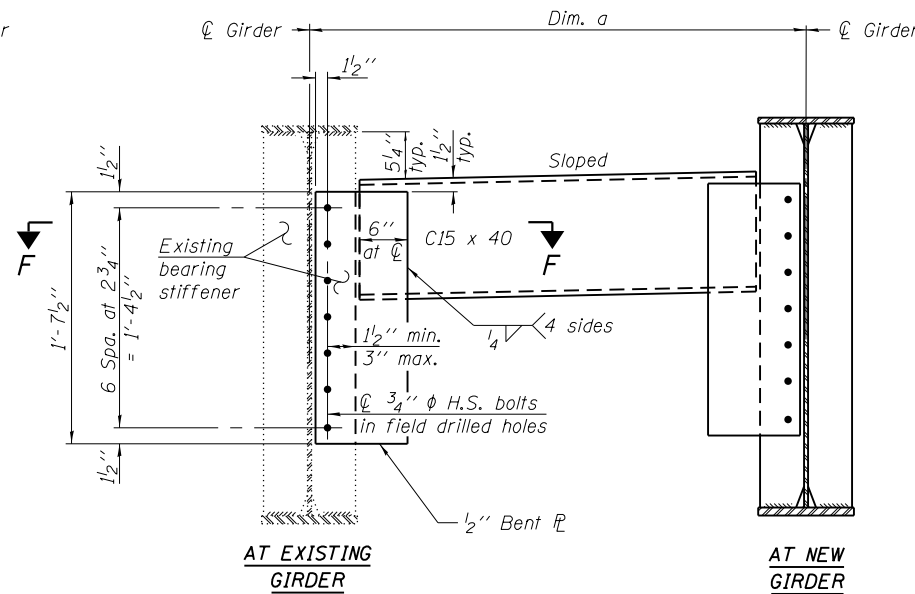
DIAPHRAGM - TYPE 21
(4 required)



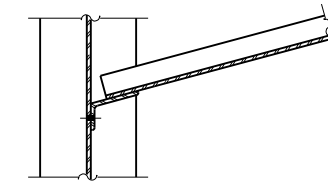
DIAPHRAGM - TYPE 22
(1 required)



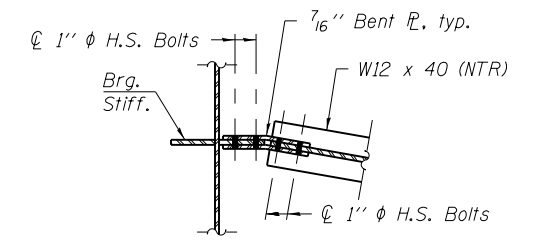
DIAPHRAGM - TYPE 23
(8 required)



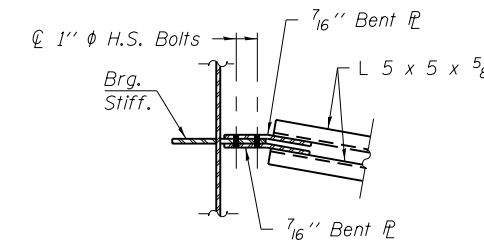
DIAPHRAGM - TYPE 24
(2 required)



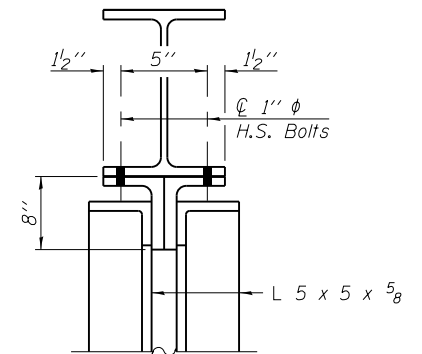
SECTION A-A



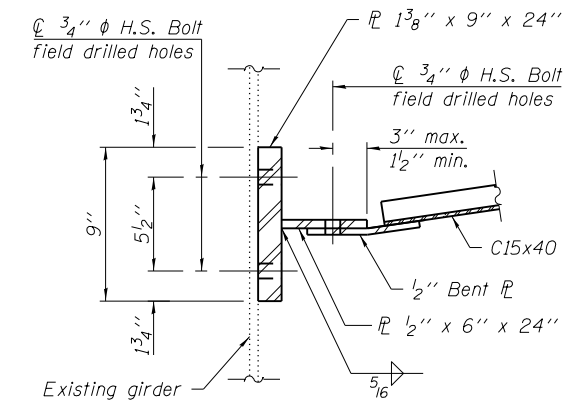
SECTION B-B



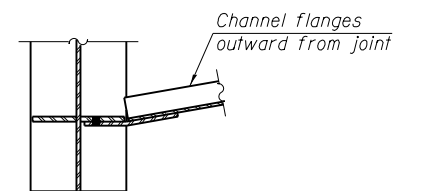
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

Notes:
Two hardened washers required for each set of oversized holes.
Alternate channels C15x50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
The alternate, if utilized, shall be provided at no additional cost to the Department.

FILE NAME = X:\1309400-MLK\Cad\15082000-76009.dgn 	DESIGNED - K.A. Klues	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS - UNIT 4 STRUCTURE NO. 082-0010 SHEET NO. 82 OF 143 SHEETS	F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
	USER NAME = elagemann	CHECKED - J.J. Derner			REVISED	64	82-(1,4)B-1	ST. CLAIR	406	274	
	PLOT SCALE =	DRAWN - J.N. Bailey			REVISED	CONTRACT NO. 76C09					
	PLOT DATE = 8/7/2014	CHECKED - E.M. Lagemann			REVISED	ILLINOIS FED. AID PROJECT					

GIRDER MOMENT TABLE - GIRDER 12

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. B11	Pier 11B	0.5 Sp. B12	Pier 12B	0.5 Susp. Span
I_s	(in ⁴)	45,654	64,376	64,376	45,654	5,963
S_s	(in ³)	1,427	1,981	1,981	1,427	398
S_x	(in ³)	54.0	81.0	81.0	54.0	24.0
ρ	(k/')	0.894	0.942	0.990	1.004	1.019
$M \rho$	('k)	513	1,887	1,302	431	130
$M \downarrow$	('k)	380	544	438	443	256
$M \uparrow$	('k)	95	109	88	111	64
$^{5/3}[M \downarrow + M \uparrow]$	('k)	792	1,088	876	924	533
M_a	('k)	1,696	3,868	2,832	1,761	862
M_{bf}	('k)	5.42	15.12	11.95	6.39	0.00
$f_s \rho$ non-comp	(ksi)	4.31	11.43	7.89	3.62	3.92
$f_s \ ^{5/3}[M \downarrow + M \uparrow]$	(ksi)	6.66	6.59	5.31	7.77	16.10
$f \downarrow$	(ksi)	1.20	2.24	1.77	1.42	0.00
f_s (Overload)	(ksi)	10.98	18.03	13.20	11.39	20.03
f_s (Total)	(ksi)	14.27	23.43	17.16	14.81	26.03
F_{cr} (Overload)	(ksi)	40.00	40.00	40.00	40.00	40.00
F_{cr}	(ksi)	49.58	49.99	50.00	49.99	50.00

INTERIOR GIRDER REACTION TABLE					
		Pier 10B	Pier 11B	Pier 12B	N. Abut.
$R \rho$	(k)	30.8	151.2	98.9	16.4
$R \downarrow$	(k)	35.6	56.6	54.9	39.9
$R \uparrow$	(k)	10.7	14.2	16.5	12.0
R_{Total}	(k)	77.1	222.0	170.3	68.3

GIRDER MOMENT TABLE - GIRDER 12A

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. B12	Pier 12B	0.5 Susp. Span
I_s	(in ⁴)	64,376	45,654	5,963
S_s	(in ³)	1,981	1,427	398
ρ	(k/')	0.692	0.882	1.073
$M \rho$	('k)	1,362	442	133
$M \downarrow$	('k)	612	462	290
$M \uparrow$	('k)	153	116	72
$^{5/3}[M \downarrow + M \uparrow]$	('k)	1,275	963	603
M_a	('k)	3,429	1,826	862
M_{bf}	('k)	---	---	958
$f_s \rho$ non-comp	(ksi)	8.25	3.72	4.03
$f_s \ ^{5/3}[M \downarrow + M \uparrow]$	(ksi)	7.73	8.10	18.22
f_s (Overload)	(ksi)	15.98	11.82	22.25
f_s (Total)	(ksi)	20.77	15.36	28.92

INTERIOR GIRDER REACTION TABLE				
		Cross Beam	Pier 12B	N. Abut.
$R \rho$	(k)	76.5	99.5	17.4
$R \downarrow$	(k)	8.6	57.9	45.6
$R \uparrow$	(k)	28.9	17.4	13.7
R_{Total}	(k)	114.0	174.8	76.6

GIRDER MOMENT TABLE - GIRDER 13

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. B11	Pier 11B	0.5 Sp. B12	Pier 12B	0.5 Susp. Span
I_s	(in ⁴)	45,654	64,376	64,376	45,654	5,963
S_s	(in ³)	1,427	1,981	1,981	1,427	398
ρ	(k/')	1.072	1.149	1.227	1.262	1.297
$M \rho$	('k)	520	2,018	1,328	498	159
$M \downarrow$	('k)	481	653	647	481	294
$M \uparrow$	('k)	120	131	129	120	73
$^{5/3}[M \downarrow + M \uparrow]$	('k)	1,002	1,307	1,294	1,002	612
M_a	('k)	1,979	4,322	3,408	1,949	1,002
M_{bf}	('k)	---	---	---	---	---
$f_s \rho$ non-comp	(ksi)	4.38	12.22	8.04	4.19	4.80
$f_s \ ^{5/3}[M \downarrow + M \uparrow]$	(ksi)	8.43	7.92	7.84	8.43	18.46
f_s (Overload)	(ksi)	12.80	20.14	15.88	12.61	23.26
f_s (Total)	(ksi)	16.64	26.18	20.64	16.40	30.23

INTERIOR GIRDER REACTION TABLE					
		Pier 10B	Pier 11B	Pier 12B	N. Abut.
$R \rho$	(k)	34.5	174.0	110.0	20.3
$R \downarrow$	(k)	37.0	68.3	59.4	46.6
$R \uparrow$	(k)	11.1	17.0	17.8	14.0
R_{Total}	(k)	82.6	259.3	187.3	80.9

GIRDER MOMENT TABLE - GIRDER 14

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. B11	Pier 11B	0.5 Sp. B12	Pier 12B	0.5 Susp. Span
I_s	(in ⁴)	45,654	64,376	64,376	45,654	5,963
S_s	(in ³)	1,427	1,981	1,981	1,427	398
ρ	(k/')	1.239	1.312	1.385	1.358	1.331
$M \rho$	('k)	546	2,110	1,409	554	167
$M \downarrow$	('k)	437	779	871	536	309
$M \uparrow$	('k)	109	156	218	134	77
$^{5/3}[M \downarrow + M \uparrow]$	('k)	910	1,558	1,815	1,117	645
M_a	('k)	1,892	4,768	4,191	2,173	1,055
M_{bf}	('k)	---	---	---	---	---
$f_s \rho$ non-comp	(ksi)	4.59	12.78	8.54	4.66	5.05
$f_s \ ^{5/3}[M \downarrow + M \uparrow]$	(ksi)	7.65	9.44	11.00	9.40	19.46
f_s (Overload)	(ksi)	12.24	22.22	19.53	14.06	24.51
f_s (Total)	(ksi)	15.91	28.88	25.39	18.27	31.86

INTERIOR GIRDER REACTION TABLE					
		Pier 10B	Pier 11B	Pier 12B	N. Abut.
$R \rho$	(k)	36.5	184.6	118.8	20.9
$R \downarrow$	(k)	39.6	78.3	64.9	46.8
$R \uparrow$	(k)	11.9	19.6	16.2	14.0
R_{Total}	(k)	88.0	282.5	200.0	81.8

GIRDER MOMENT TABLE - GIRDER 15

EXTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. B11	Pier 11B	0.5 Sp. B12	Pier 12B	0.5 Susp. Span
I_s	(in ⁴)	45,654	64,376	64,376	45,654	5,963
S_s	(in ³)	1,427	1,981	1,981	1,427	398
ρ	(k/')	1.317	1.364	1.410	1.363	1.316
$M \rho$	('k)	586	2,201	1,495	587	174
$M \downarrow$	('k)	599	1,126	1,116	759	231
$M \uparrow$	('k)	150	225	279	190	58
$^{5/3}[M \downarrow + M \uparrow]$	('k)	1,248	2,252	2,325	1,582	481
M_a	('k)	2,384	5,788	4,967	2,819	851
M_{bf}	('k)	---	---	---	---	---
$f_s \rho$ non-comp	(ksi)	4.93	13.33	9.06	4.94	5.24
$f_s \ ^{5/3}[M \downarrow + M \uparrow]$	(ksi)	10.50	13.64	14.09	13.30	14.52
f_s (Overload)	(ksi)	15.43	26.97	23.14	18.24	19.76
f_s (Total)	(ksi)	20.05	35.07	30.09	23.71	25.69

EXTERIOR GIRDER REACTION TABLE					
		Pier 10B	Pier 11B	Pier 12B	N. Abut.
$R \rho$	(k)	41.1	190.6	119.5	21.2
$R \downarrow$	(k)	37.4	87.3	61.6	30.8
$R \uparrow$	(k)	11.3	21.8	15.4	9.2
R_{Total}	(k)	89.8	299.8	196.5	61.2

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).

S_x : Section modulus of one flange plate for lateral flange bending (in³).

ρ : Un-factored non-composite dead load (kips/ft.).

$M \rho$: Un-factored moment due to non-composite dead load (kip-ft.).

$M \downarrow$: Un-factored live load moment (kip-ft.).

$M \uparrow$: Un-factored moment due to impact (kip-ft.).

M_a : Factored design moment (kip-ft.).

$1.3 [M \rho + \frac{5}{3} (M \downarrow + M \uparrow)]$

M_{bf} : Factored lateral bending moment for flange plate (kip-ft.).

$f \downarrow$: Factored calculated normal stress at the edge of flange due to lateral bending (ksi).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).

$M \rho + \frac{5}{3} (M \downarrow + M \uparrow)$

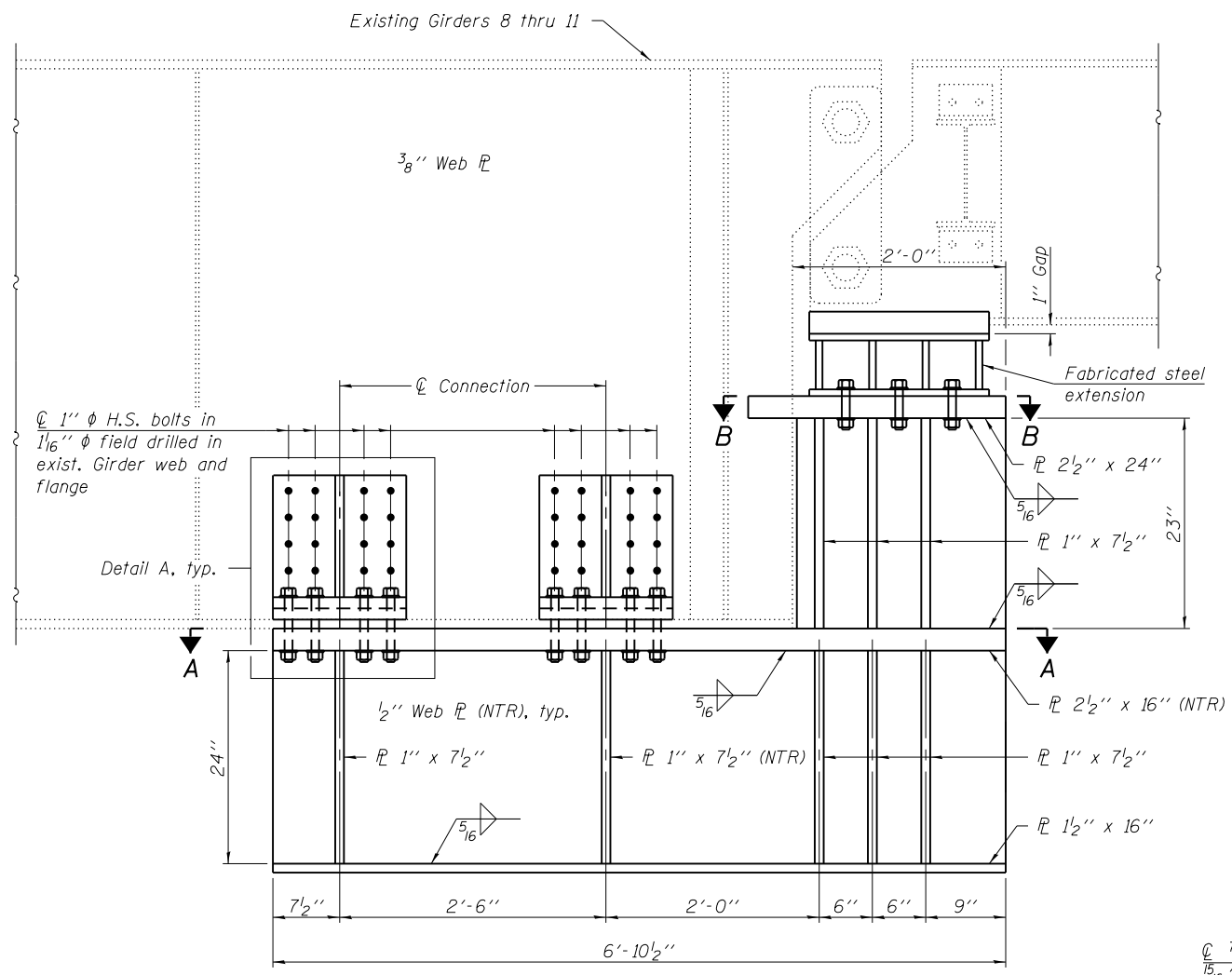
f_s (Total): Sum of stresses as computed from the moments below (ksi).

$1.3 [M \rho + \frac{5}{3} (M \downarrow + M \uparrow)]$

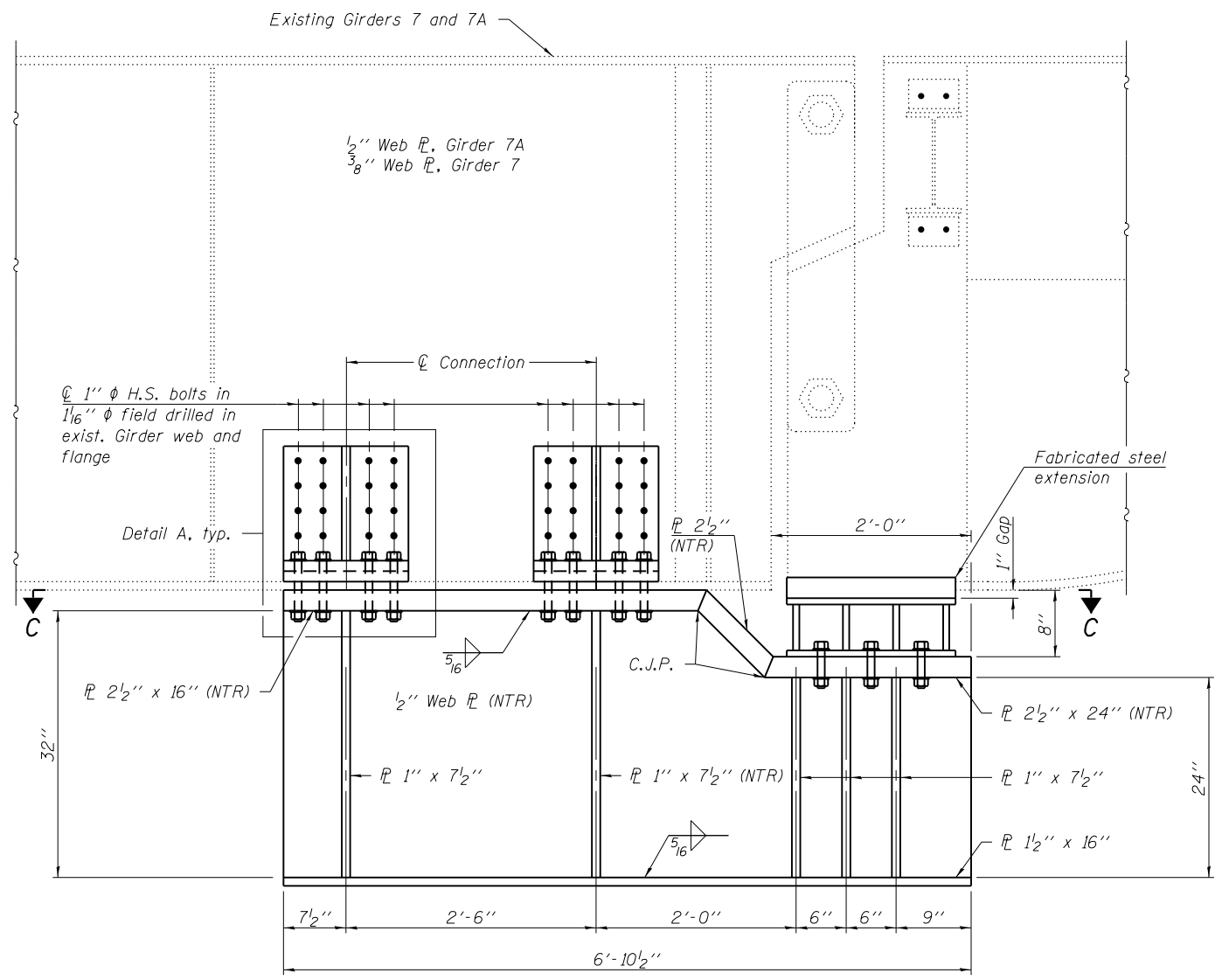
F_{cr} (Overload): Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5 (ksi).

F_{cr} : Critical average flange stress (smaller of F_{cr1} or F_{cr2} for partially braced flanges and F_y for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4) (ksi).

Note:
 $M \downarrow$ and $R \downarrow$ include the effects of centrifugal force and superelevation.

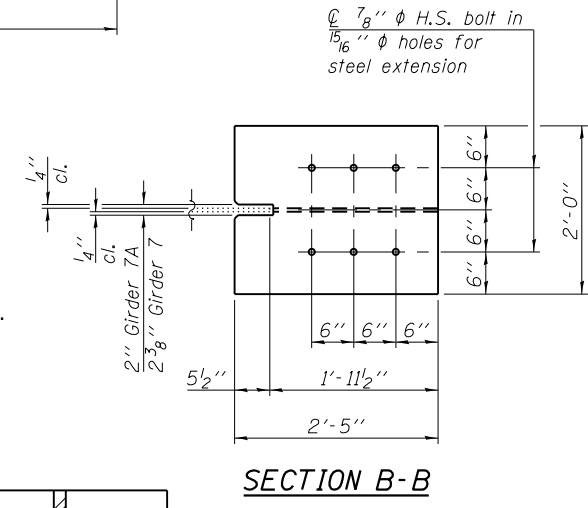


CATCH BEAM - TYPE 1
(4 Required)

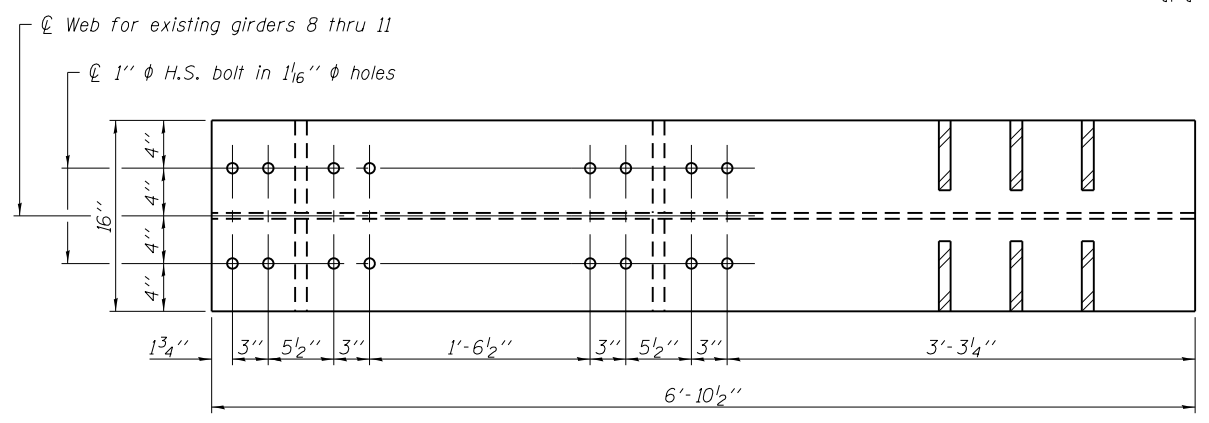


CATCH BEAM - TYPE 2
(2 Required)

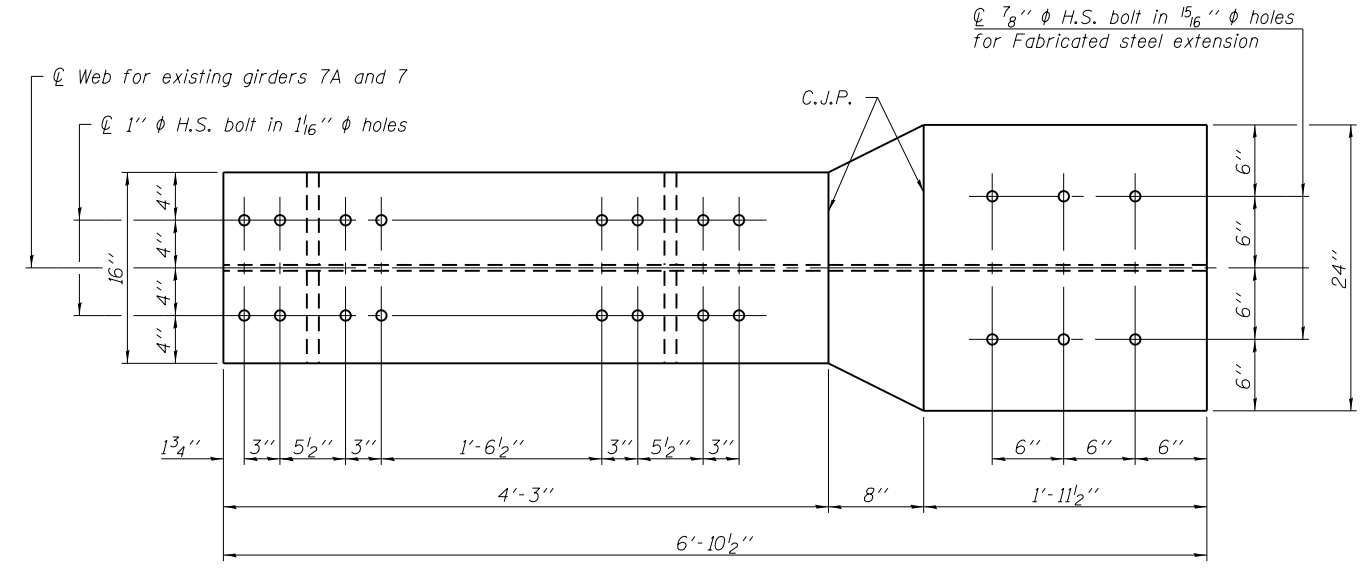
Notes:
All structural steel shall be AASHTO M270 Grade 50.
Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
For Fabricated Steel Extension details, see sheet 85 of 143.



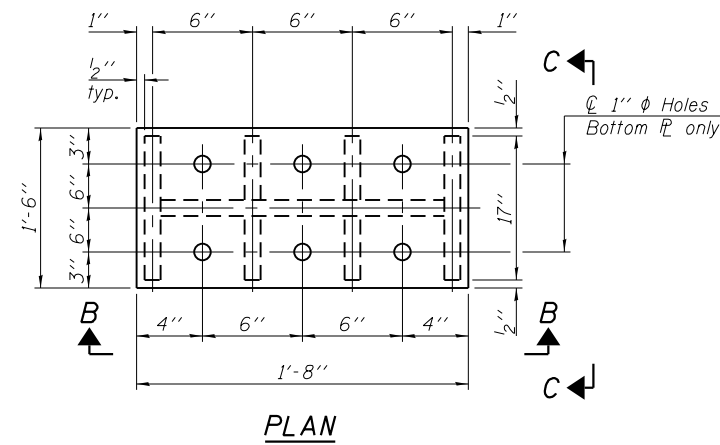
SECTION B-B



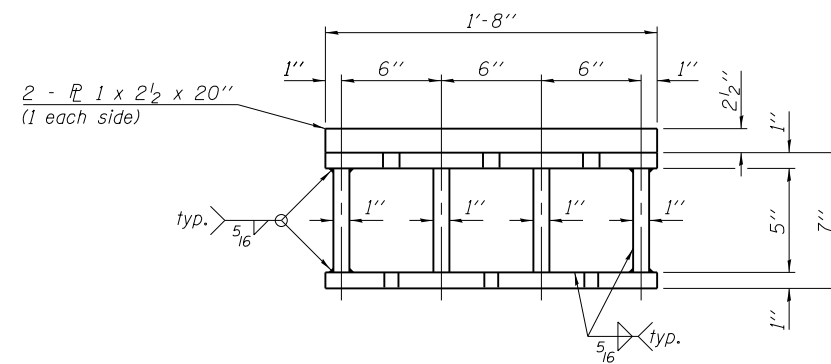
SECTION A-A



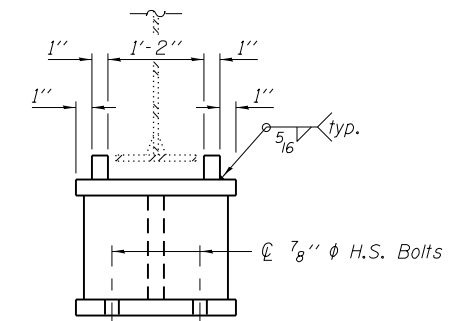
SECTION C-C



PLAN



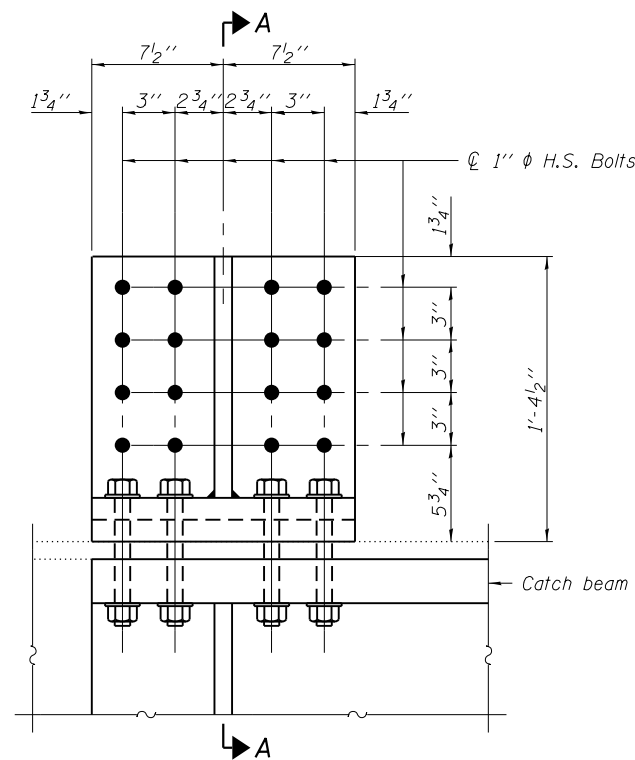
VIEW B-B



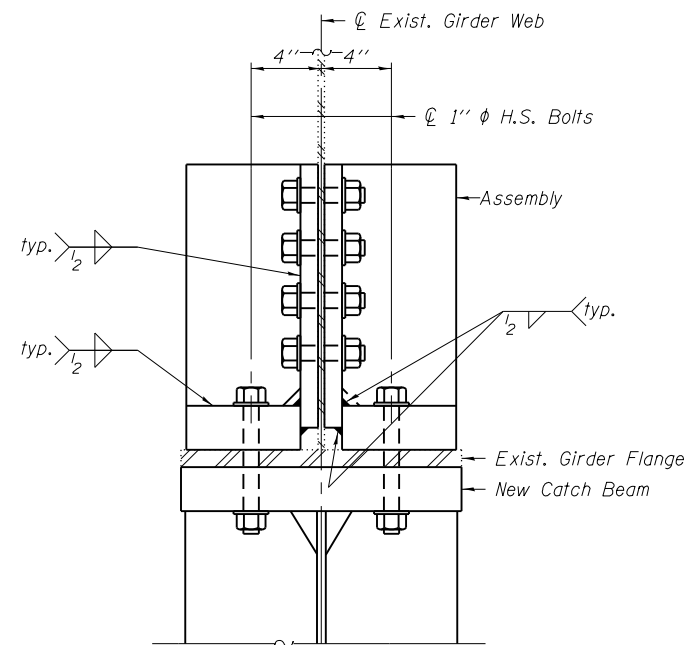
VIEW C-C

STEEL EXTENSION DETAILS

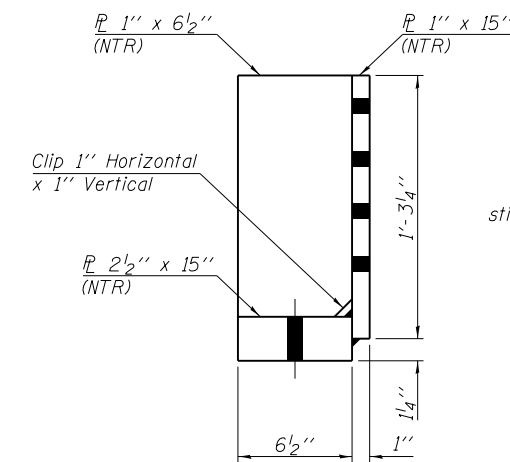
(11 Required)



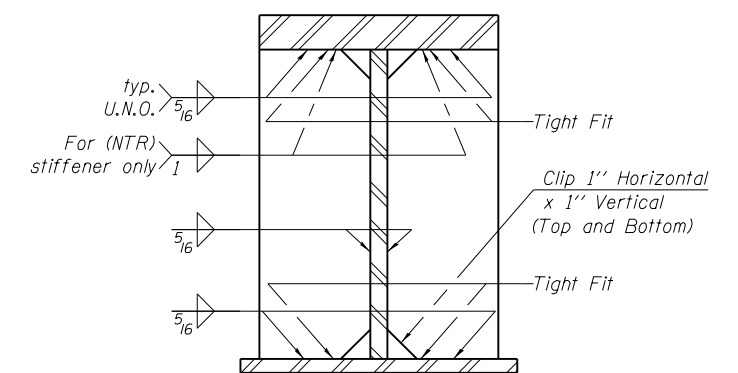
DETAIL A



SECTION A-A

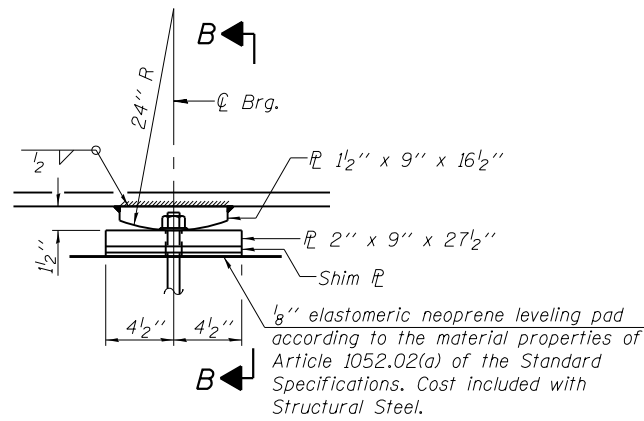


ASSEMBLY DETAIL

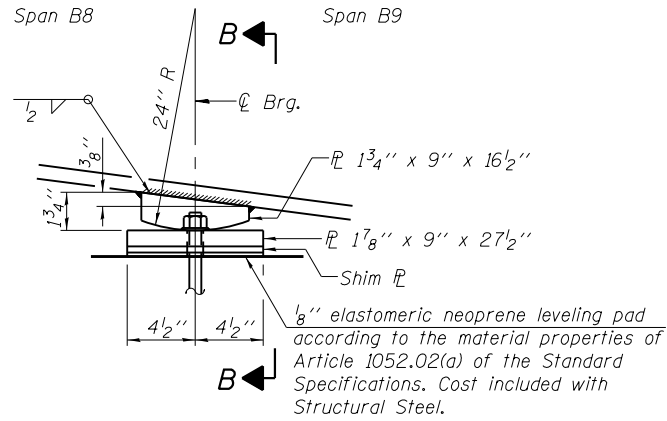


CATCH BEAM STIFFENER ONLY

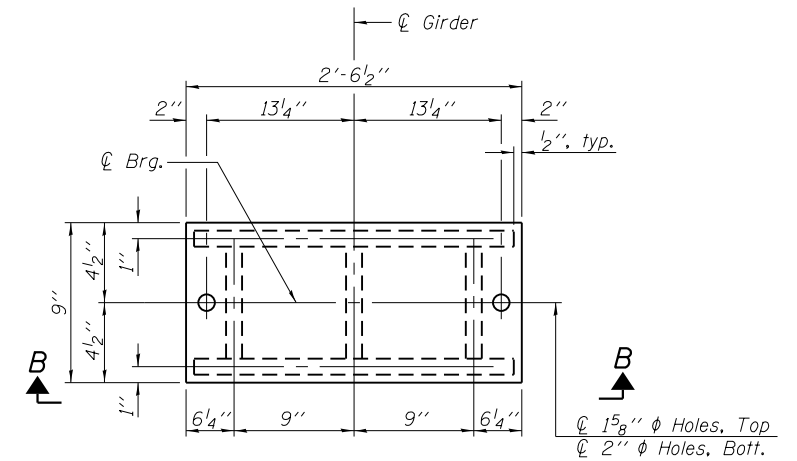
Note:
For location Detail A, see sheet 84 of 143.



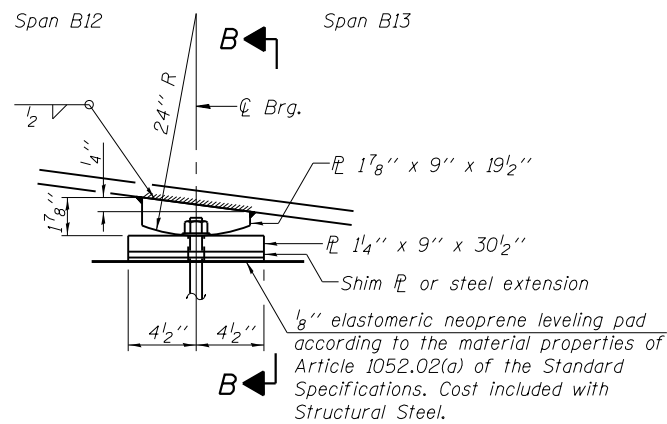
ELEVATION AT PIER 4B



ELEVATION AT PIER 8B
(Looking West)

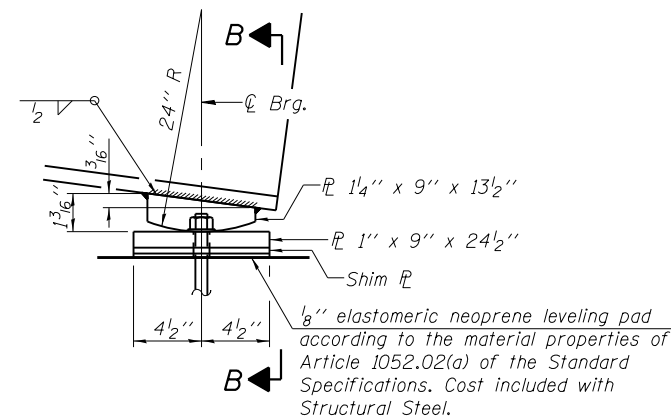


PLAN TOP AND BOTTOM PLATE
(Steel Extension for Girder 12 Pier 12B)

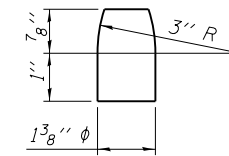


ELEVATION AT PIER 12B
(Looking West)

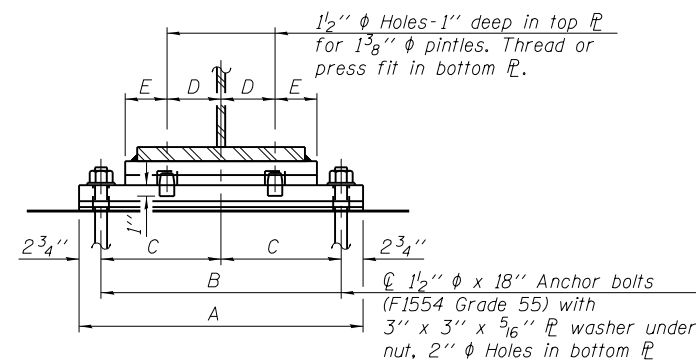
FIXED BEARING



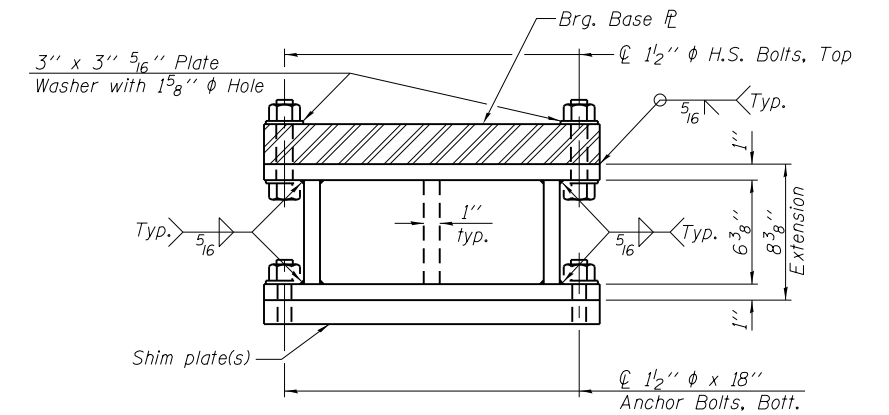
ELEVATION AT NORTH ABUTMENT



PINTLE



SECTION B-B



VIEW B-B
(showing base ϕ attachment)

STEEL EXTENSIONS AT GIRDER 12 PIER 12B

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

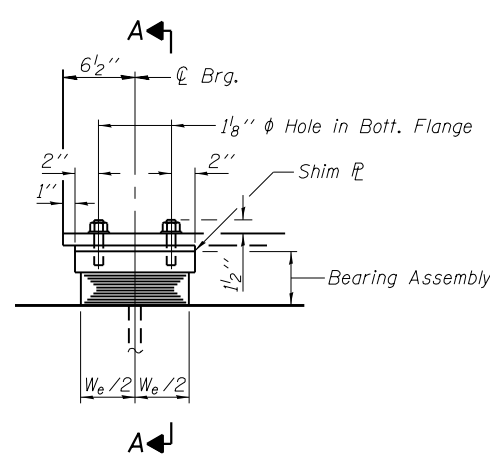
FIXED BEARING DIMENSIONS

Unit	Substructure Number	Girder Numbers	A	B	C	D	E
2	Pier 4B	G13-G16	27 1/2"	22"	11"	4"	4 1/4"
3	Pier 8B	G12-G14	27 1/2"	22"	11"	4"	4 1/4"
4	Pier 12B	G12-G15, G12A	30 1/2"	25"	12 1/2"	5"	4 3/4"
4	N. Abut.	G12-G15, G12A	24 1/2"	19"	9 1/2"	3 1/2"	3 1/4"

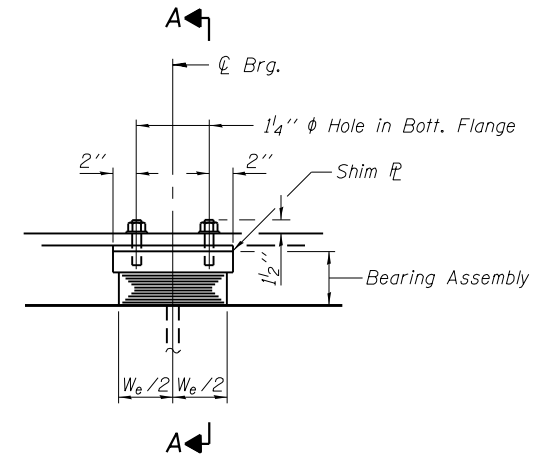
BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1 1/2"	Each	34

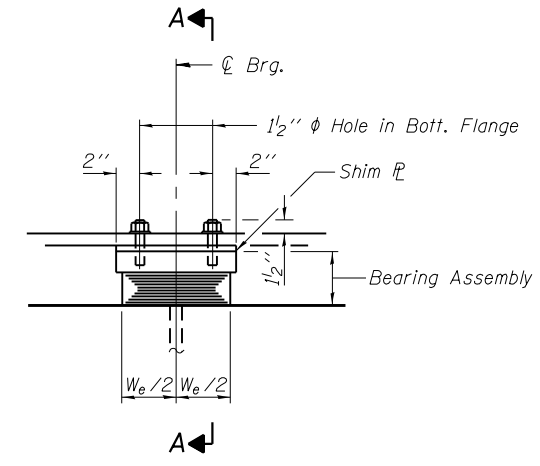
Notes:
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
 Threaded studs and bolts shall be AASHTO M253 Type I.
 The structural steel plates of the Bearing Assembly and Steel Extension shall conform to the requirements of AASHTO M270 Grade 50.
 Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



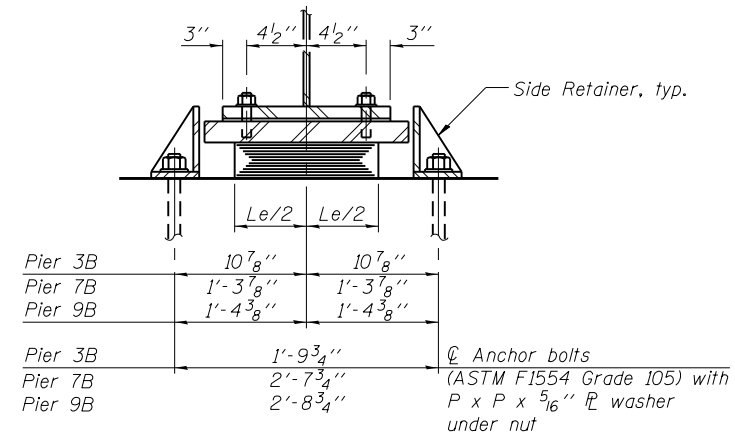
ELEVATION AT PIER 3B



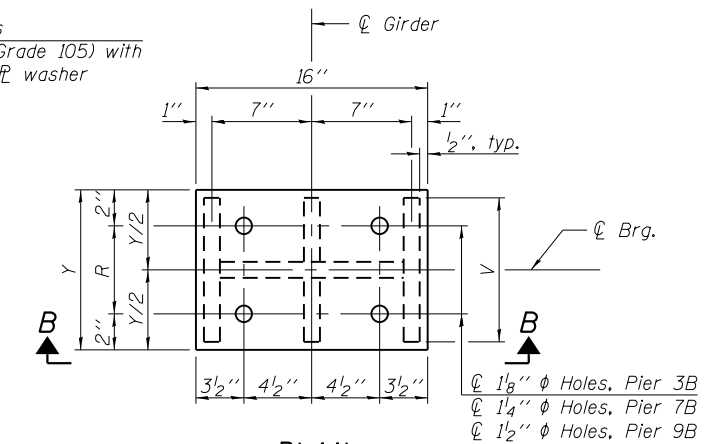
ELEVATION AT PIER 7B
 TYPE I ELASTOMERIC EXP. BRG.



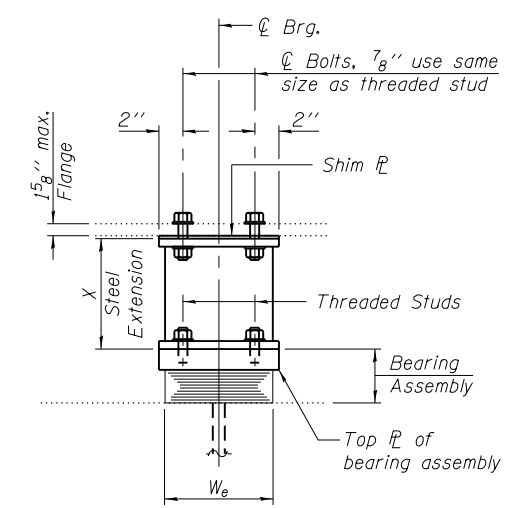
ELEVATION AT PIER 9B



SECTION A-A

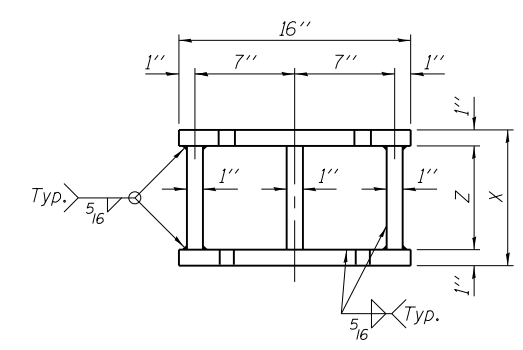


PLAN

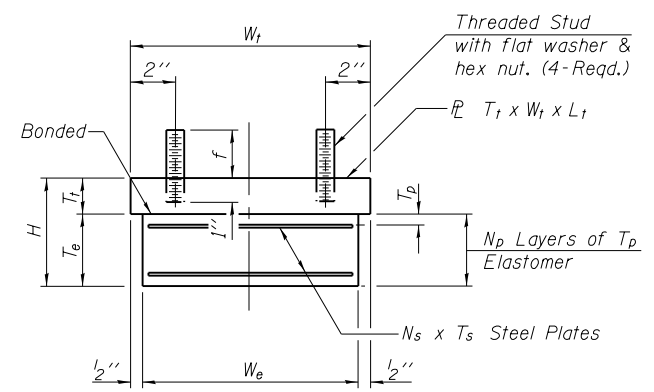


ELEVATION

STEEL EXTENSION DETAILS

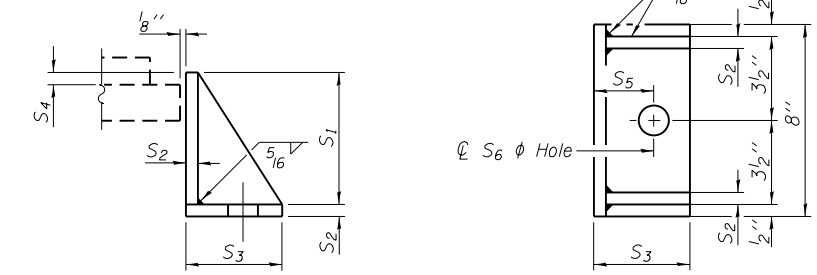


VIEW B-B



BEARING ASSEMBLY

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



SIDE RETAINER

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

SIDE RETAINER DIMENSIONS

Unit	Substructure Number	Girder Numbers	S ₁	S ₂	S ₃	S ₄	S ₅	S ₆
2	Pier 3B	13-16	4 5/8"	5 5/8"	5 1/2"	1 1/2"	2 3/4"	1"
3	Pier 7B	12-14	6 3/4"	5 5/8"	5 1/2"	1 1/2"	2 3/4"	1 3/4"
3	Pier 9B	12-14	8 5/8"	5 5/8"	6 3/8"	1 1/2"	3 1/4"	2 1/4"

TYPE I BEARING STEEL EXTENSIONS

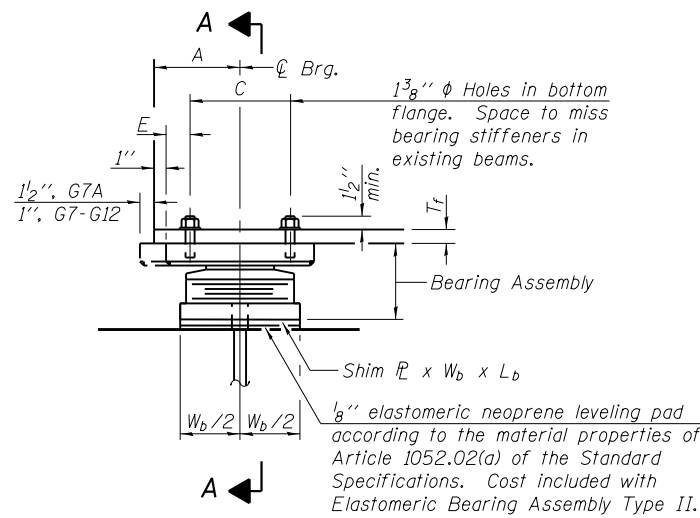
Unit	Substructure Number	Girder Numbers	R	V	X	Y	Z
2	Pier 3B	13	7"	10"	6 5/8"	11"	4 5/8"
2	Pier 3B	14	7"	10"	7 7/8"	11"	5 5/8"
3	Pier 7B	12	12"	15"	9 1/4"	16"	7 1/4"
3	Pier 9B	12	12"	15"	6 3/4"	16"	4 3/4"

ELASTOMERIC BEARING ASSEMBLIES TYPE I

Unit	Substructure Number	Girder Numbers	L _e	W _e	T _p	N _p	T _s	N _s	T _e	W _t	L _t	T _t	H	f	Anchor Bolt	P	Threaded Stud
2	Pier 3B	13-16	14"	10"	7/16"	6	1/8"	5	3 1/4"	11"	16"	1 1/2"	4 3/4"	3 1/2"	1 1/2" φ x 18"	3"	1" φ
3	Pier 7B	12-14	24"	15"	3/4"	5	3/16"	4	4 1/2"	16"	26"	2 3/8"	6 7/8"	4 1/8"	1 1/2" φ x 18"	3"	1 1/8" φ
3	Pier 9B	12-14	24"	15"	3/4"	7	3/16"	6	6 3/8"	16"	26"	2 3/8"	8 3/4"	4 1/8"	2" φ x 24"	3 1/2"	1 3/8" φ

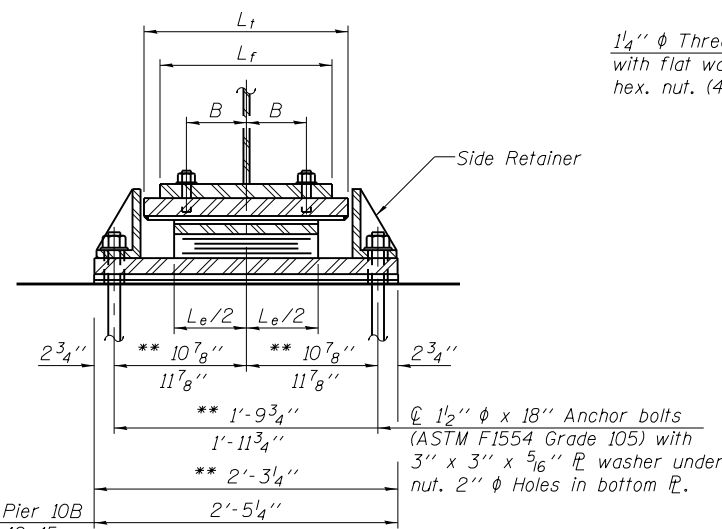
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10
Anchor Bolts, 1 1/2"	Each	14
Anchor Bolts, 2"	Each	6



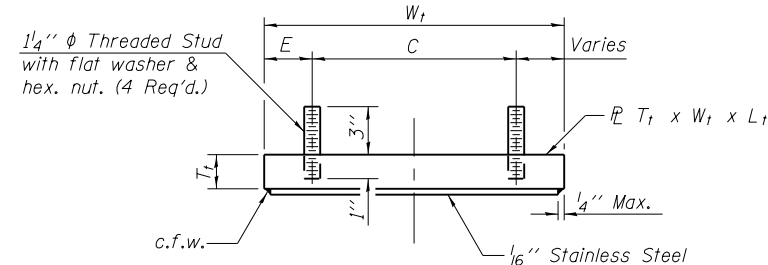
ELEVATION AT PIERS

TYPE II ELASTOMERIC EXP. BRG.

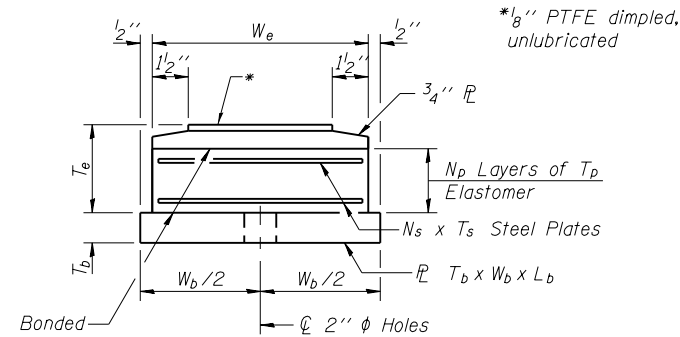


SECTION A-A

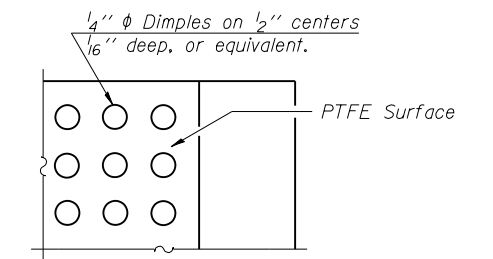
** All girders except Unit 4, Pier 10B, Girders 12-15.



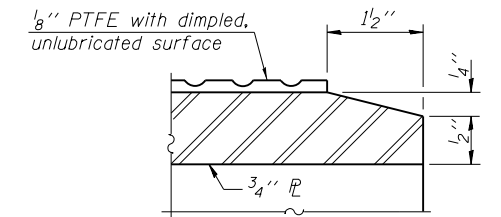
TOP BEARING ASSEMBLY ELEV.



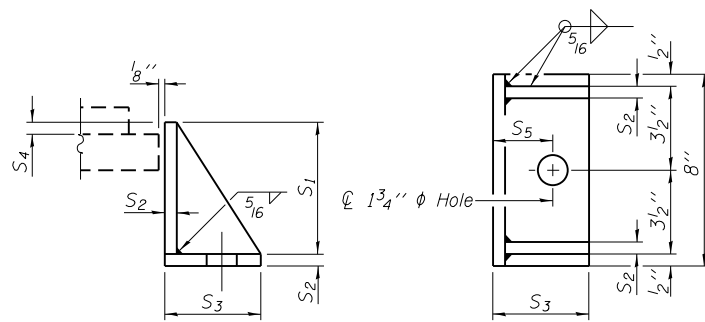
BOTTOM BEARING ASSEMBLY ELEV.



PLAN-PTFE SURFACE



SECTION THRU PTFE

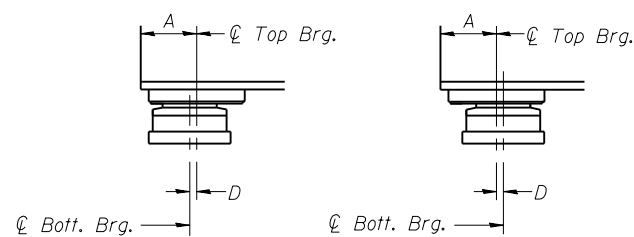


SIDE RETAINER

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

SIDE RETAINER DIMENSIONS

Unit	Substructure Number	Girder Numbers	S ₁	S ₂	S ₃	S ₄	S ₅
2	Pier 6B	G7A, G7-G12, 13-16	7"	5 1/8"	5 1/2"	9 1/16"	2 3/4"
3	Pier 6B	G7A, G7-G11, 12-14	6 3/8"	5 1/8"	5 1/2"	2"	2 3/4"
3	Pier 10B	G7A, G7-G11, 12-14	6 1/2"	5 1/8"	5 1/2"	1 1/2"	2 3/4"
4	Pier 10B	G7A, G7-G11, 12-15	6 1/2"	5 1/8"	5 1/2"	1 1/16"	2 3/4"



BELOW 50°F. (Move bott. brg. away from fixed brg.)
 ABOVE 50°F. (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

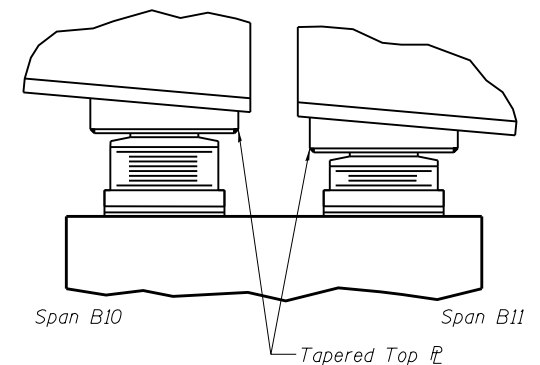
Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
 The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
 Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
 The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.
 Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

ELASTOMERIC BEARING ASSEMBLIES TYPE II

Unit	Substructure Number	Girder Numbers	L _e	W _e	T _p	N _p	T _s	N _s	T _e	W _t	L _t	T _t	L _f x T _f	W _b	L _b	T _b	E	A	B	C
2	Pier 6B	13-16 (N)	14"	10"	7 1/16"	8	1 1/8"	7	5 1/4"	13"	16"	1 3/4"	15" x 1 3/8"	11"	27 1/4"	1"	2"	7 1/2"	5"	9"
2	Pier 6B	G7A (E)	14"	10"	7 1/16"	8	1 1/8"	7	5 1/4"	13"	16"	1 3/4"	12" x 3/4"	11"	27 1/4"	1"	3 1/2"	5"	4"	6"
2	Pier 6B	G7-G12 (E)	14"	10"	7 1/16"	8	1 1/8"	7	5 1/4"	13"	16"	1 3/4"	14" x 5/8"	11"	27 1/4"	1"	4 1/4"	5 1/2"	3 1/4"	4 1/2"
3	Pier 6B	12-14 (N)	14"	10"	7 1/16"	7	1 1/8"	6	4 1/16"	12"	16"	1 1/2"	15" x 1"	11"	27 1/4"	1"	2"	7"	5"	8"
3	Pier 6B	G7A (E)	14"	10"	7 1/16"	7	1 1/8"	6	4 1/16"	12"	16"	1 1/2"	16" x 1 1/8"	11"	27 1/4"	1"	3 1/2"	5"	6"	6"
3	Pier 6B	G7-G11 (E)	14"	10"	7 1/16"	7	1 1/8"	6	4 1/16"	12"	16"	1 1/2"	16" x 3/4"	11"	27 1/4"	1"	4 1/8"	5 1/2"	3 3/4"	4 3/4"
3	Pier 10B	12-14 (N)	14"	10"	7 1/16"	7	1 1/8"	6	4 1/16"	12"	16"	1 1/2"-1 1/8" (T)	15" x 1"	11"	27 1/4"	1"	2"	7"	5"	8"
3	Pier 10B	G7A (E)	14"	10"	7 1/16"	7	1 1/8"	6	4 1/16"	12"	16"	1 1/2"-1 1/8" (T)	16" x 1 3/8"	11"	27 1/4"	1"	3 1/2"	5"	6"	6"
3	Pier 10B	G7-G11 (E)	14"	10"	7 1/16"	7	1 1/8"	6	4 1/16"	12"	16"	1 1/2"-1 1/8" (T)	16" x 3/4"	11"	27 1/4"	1"	4 1/8"	5 1/2"	3 3/4"	4 3/4"
4	Pier 10B	12-15 (N)	12"	9"	3 3/8"	8	3 3/2"	7	4 1/2"	11"	18"	1 1/2"-1 1/8" (T)	18" x 1"	10"	29 1/4"	1 1/8"	2"	7"	5"	7"
4	Pier 10B	G7A (E)	12"	9"	3 3/8"	8	3 3/2"	7	4 1/2"	11"	16"	1 1/2"-1 1/8" (T)	16" x 1 1/2"	10"	27 1/4"	1 1/8"	3 1/2"	5"	6"	6"
4	Pier 10B	G7-G11 (E)	12"	9"	3 3/8"	8	3 3/2"	7	4 1/2"	11"	16"	1 1/2"-1 1/8" (T)	16" x 3/4"	10"	27 1/4"	1 1/8"	4 5/8"	6"	3 3/4"	4 3/4"

(N) = New Girder
 (E) = Existing Girder
 (T) = Tapered P



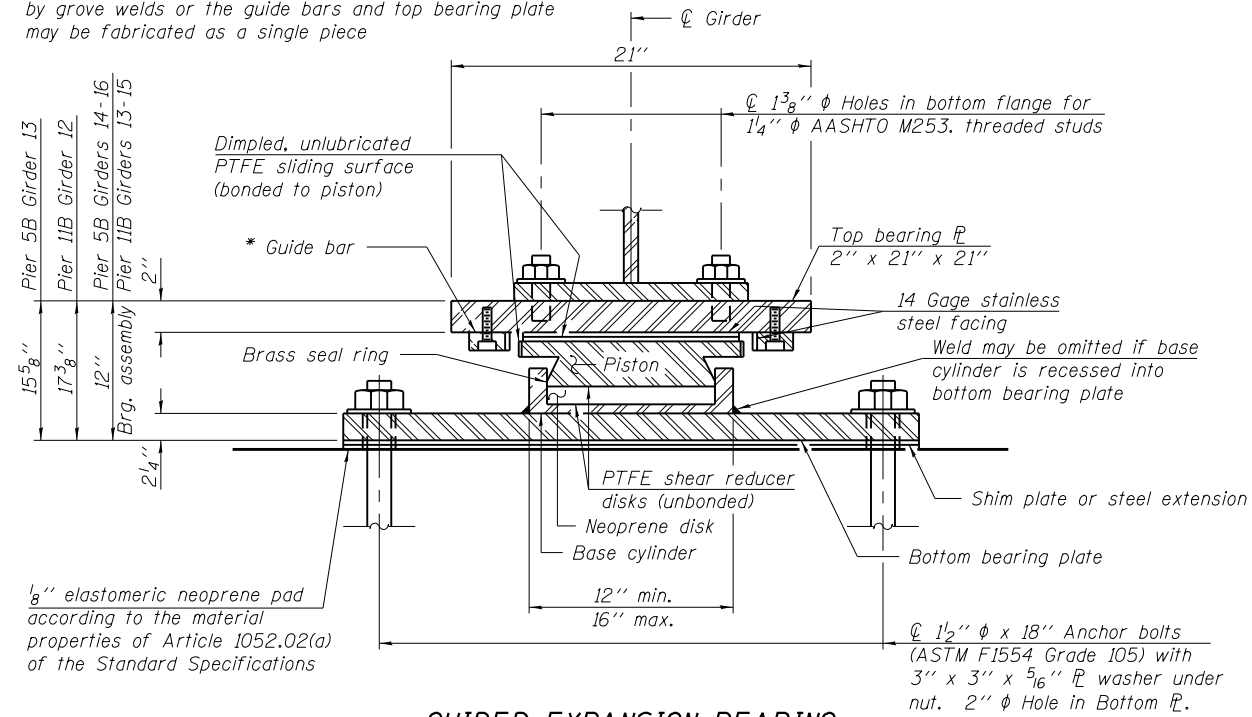
ELEVATION AT PIER 10B

(Looking West)

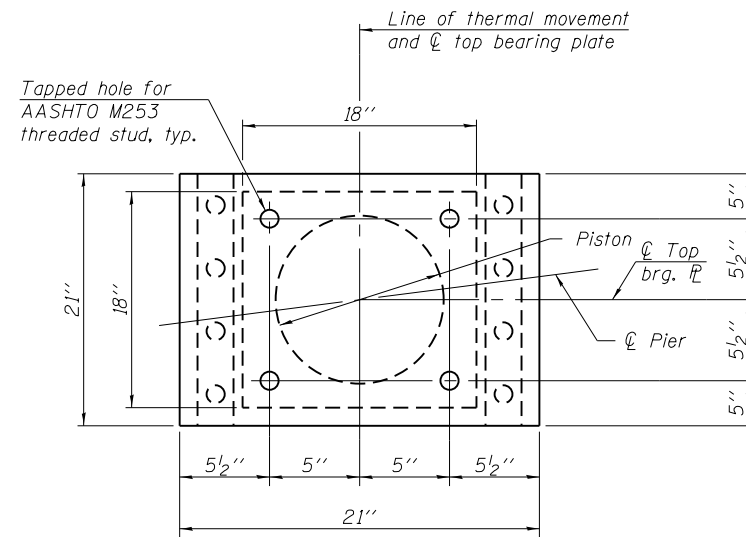
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	39
Anchor Bolts, 1 1/2"	Each	78

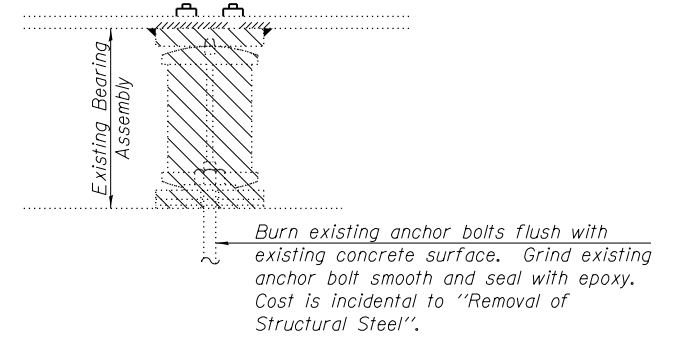
* As alternates to the bolted connection shown, the guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece



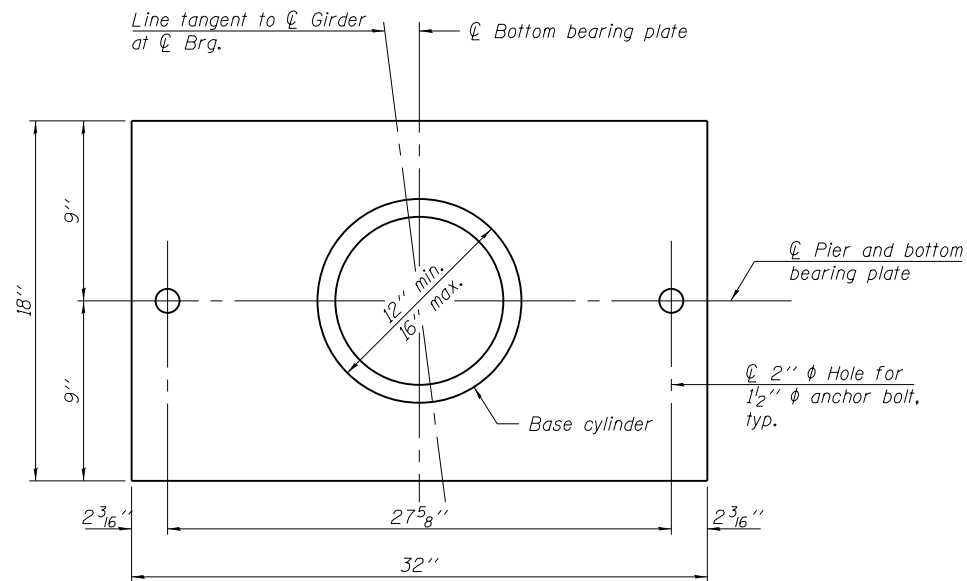
**GUIDED EXPANSION BEARING
AT PIERS 5B (GIRDERS 13-16) AND 11B (GIRDERS 12-15)**



**TOP BEARING PLATE AND
PISTON PLAN**



EXISTING BEARING REMOVAL DETAIL



**BOTTOM BEARING PLATE AND
BASE CYLINDER PLAN**

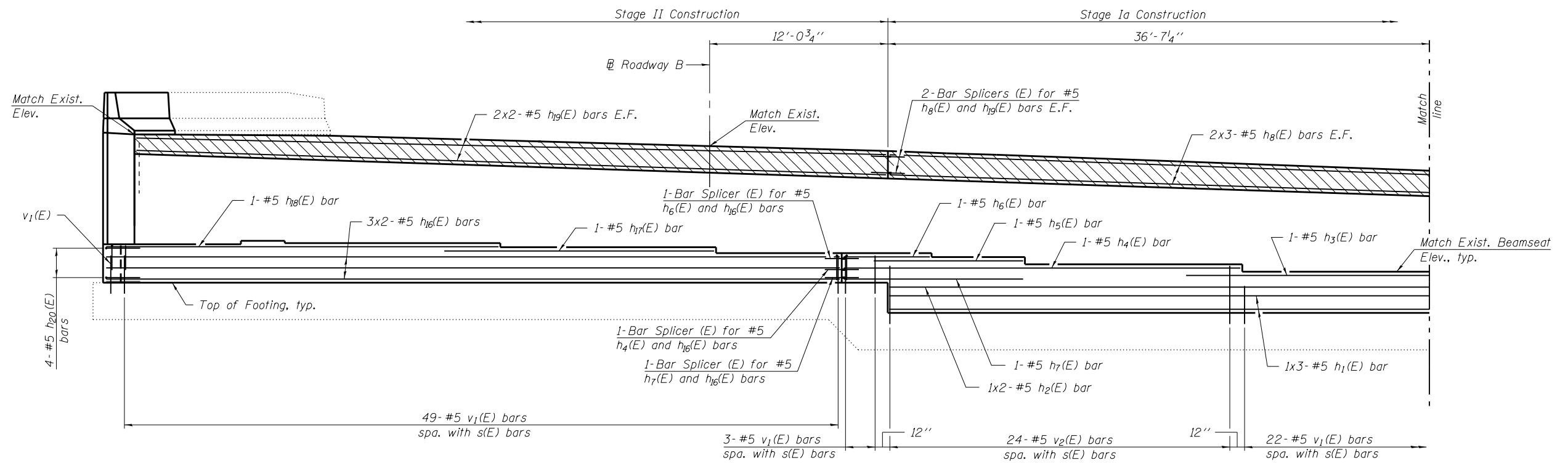
Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts for HLMR bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
1/4" ϕ Threaded studs shall conform to AASHTO M253.
Bearing assembly dimensions are subject to change based upon manufacturer used.

HLMR BEARING SUMMARY TABLE

Location	Pier 5B	Pier 11B
Type	350k	300k
DL + LL (Kips)	336	298
Total Required Movement	1.67"	1.63"
Required Rotation (Radians)	0.0035	0.0372

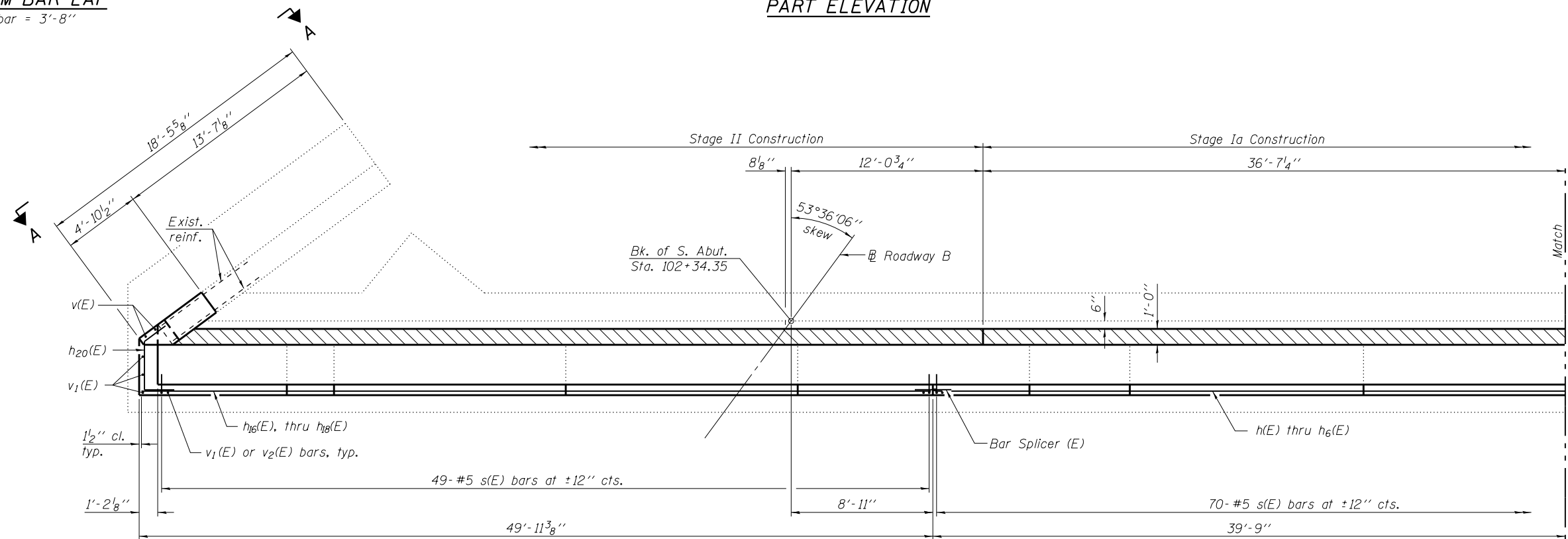
BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Guided Expansion, 300k	Each	4
High Load Multi-Rotational Bearings, Guided Expansion, 350k	Each	4
Anchor Bolts, 1/2"	Each	16



MINIMUM BAR LAP
#5 bar = 3'-8"

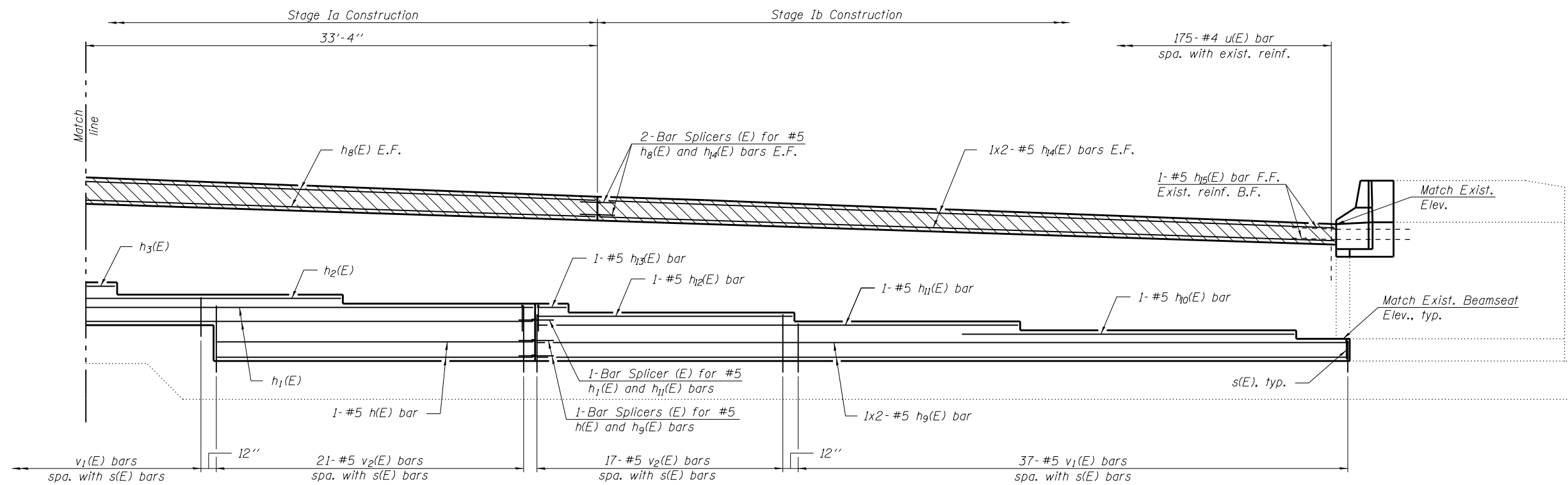
PART ELEVATION



PART TOP VIEW

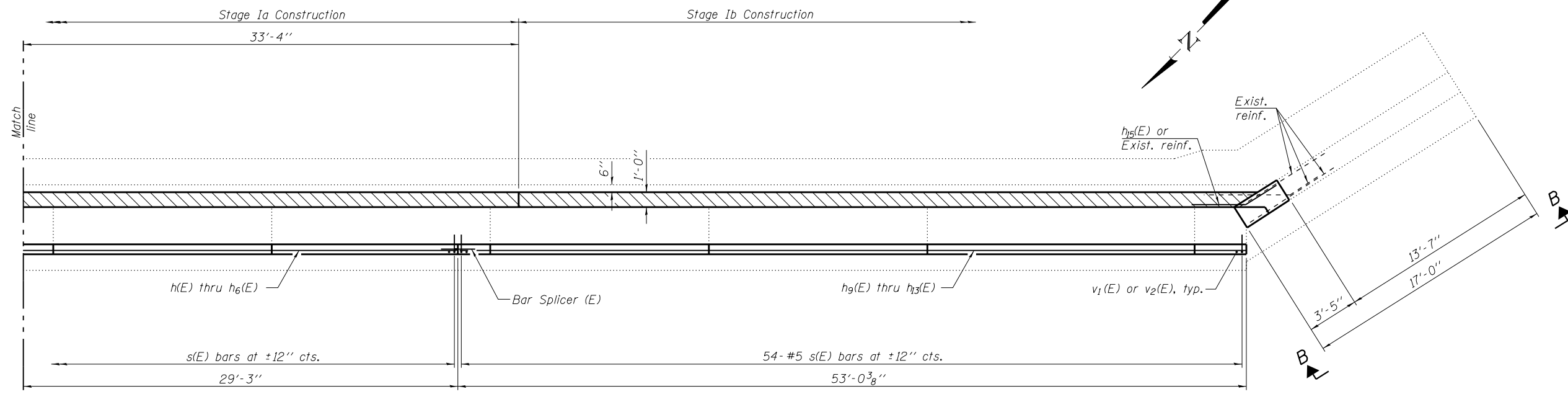
Notes:
Bars indicated thus 1x3-#5 etc. indicates 1 line of bars with 3 lengths per line.
Existing reinforcement shall be cleaned and incorporated into new construction. Cost included with "Concrete Removal".
Cut ends of existing reinforcement extending into new construction to maintain 1/2" minimum clearance.
For View A-A, see sheet 92 of 143.

FILE NAME = X:\1309400-MLK\Cad\082000-76609.dgn USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - E.M. Lagemann	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH ABUTMENT DETAILS STRUCTURE NO. 082-0010	F.A.I. RTE. 64	SECTION 82-(1,4)B-1	COUNTY ST. CLAIR	TOTAL SHEETS 406	SHEET NO. 282
	CHECKED - J.J. Derner	REVISED			CONTRACT NO. 76609				
	DRAWN - C.A. Buettner	REVISED			SHEET NO. 90 OF 143 SHEETS				
	CHECKED - J.J. Derner	REVISED			ILLINOIS FED. AID PROJECT				



PART ELEVATION

MINIMUM BAR LAP
#5 bar = 3'-8"

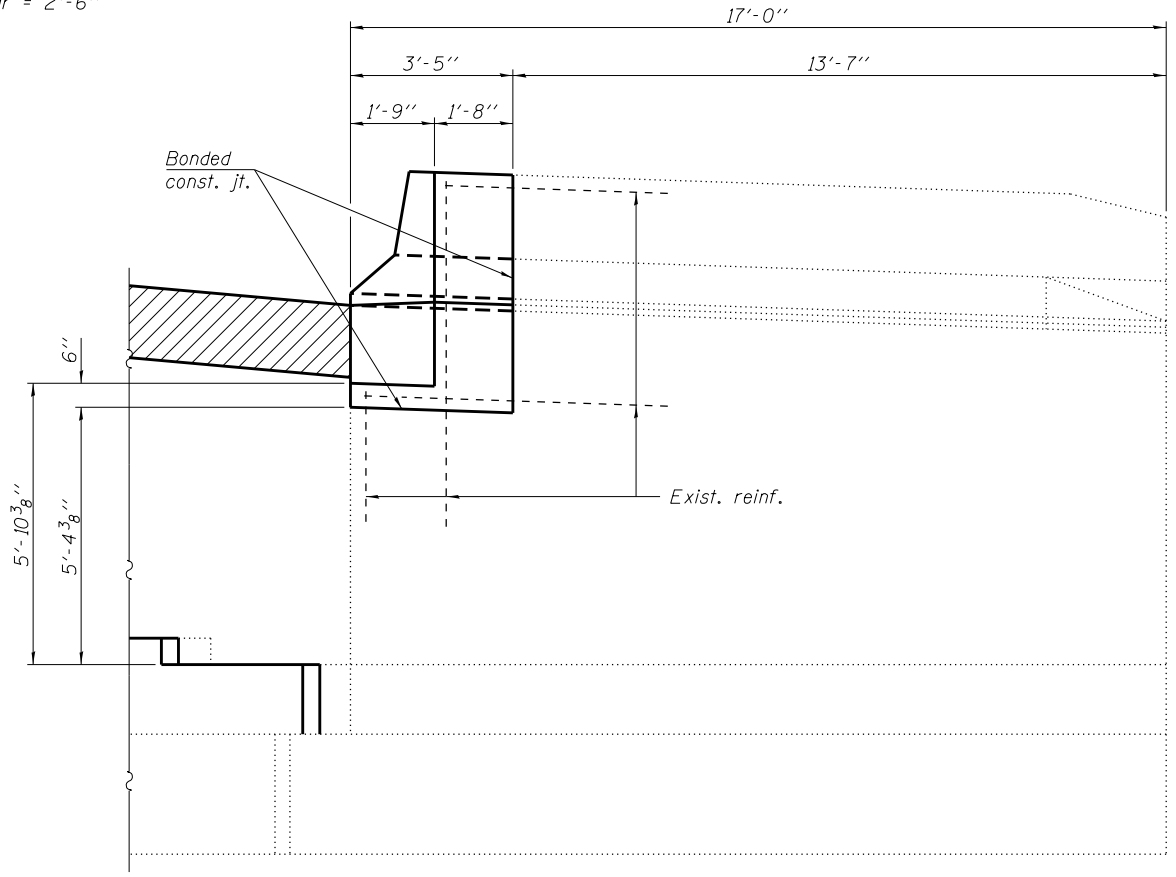
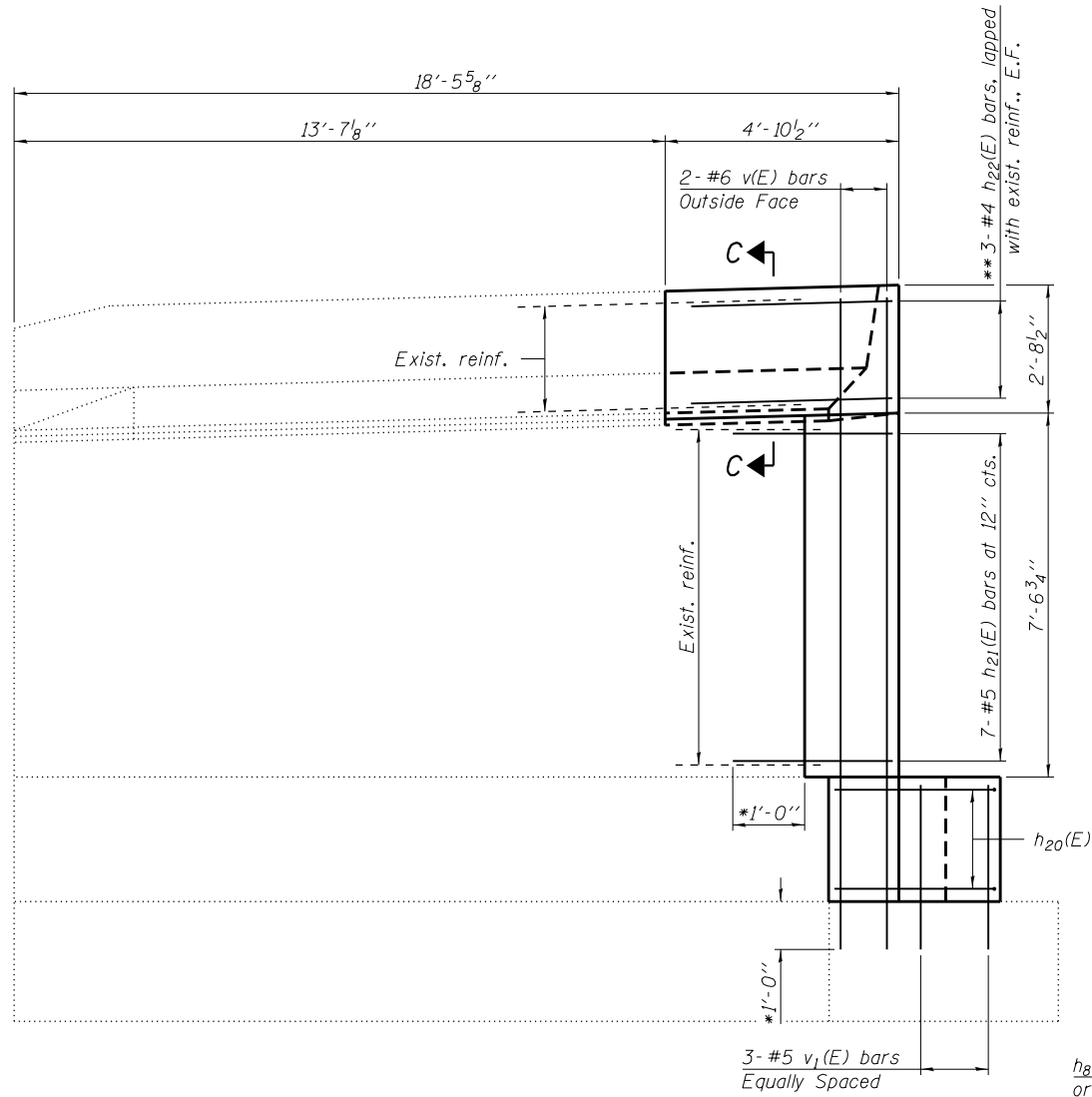


PART TOP VIEW

Notes:
 Bars indicated thus 1x3-#5 etc. indicates 1 line of bars with 3 lengths per line.
 Existing reinforcement shall be cleaned and incorporated into new construction. Cost included with "Concrete Removal".
 Cut ends of existing reinforcement extending into new construction to maintain 1 1/2" minimum clearance.
 For View B-B, see sheet 92 of 143.

FILE NAME = X:\1309400-MLK\Cad\SV\082000-0-76009.dgn HORNER & SHIFRIN, INC. ENGINEERS	USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - E.M. Lagemann CHECKED - J.J. Derner DRAWN - C.A. Buettner CHECKED - J.J. Derner	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH ABUTMENT DETAILS STRUCTURE NO. 082-0010 SHEET NO. 91 OF 143 SHEETS	F.A.I. RTE. 64 SECTION 82-(1,4)B-1 COUNTY ST. CLAIR TOTAL SHEETS 406 SHEET NO. 283 CONTRACT NO. 76G09	ILLINOIS FED. AID PROJECT
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MINIMUM BAR LAP
(Parapet)
#5 bar = 2'-6"

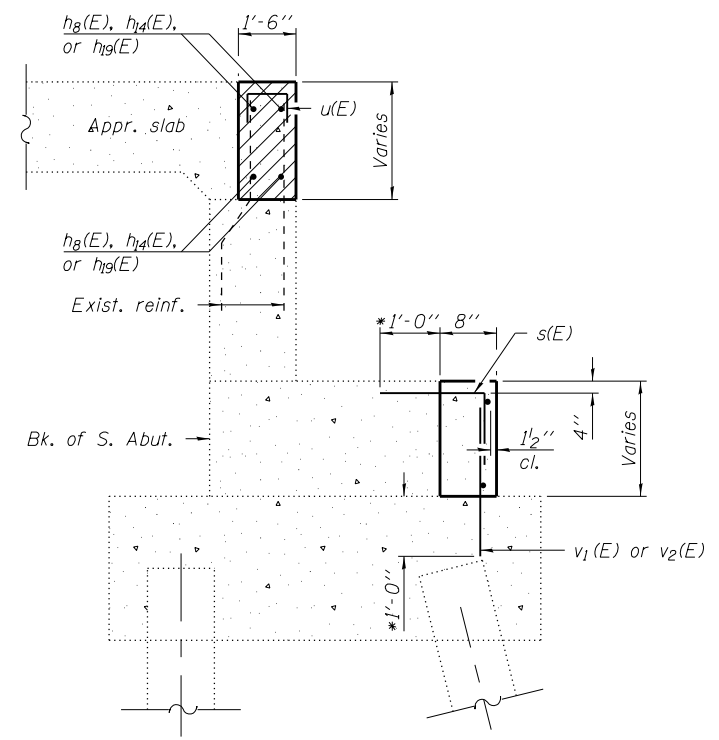
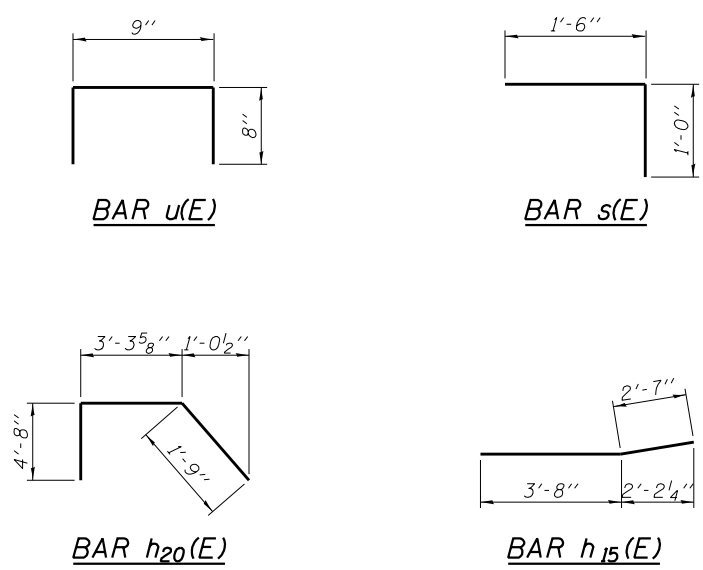


VIEW B-B

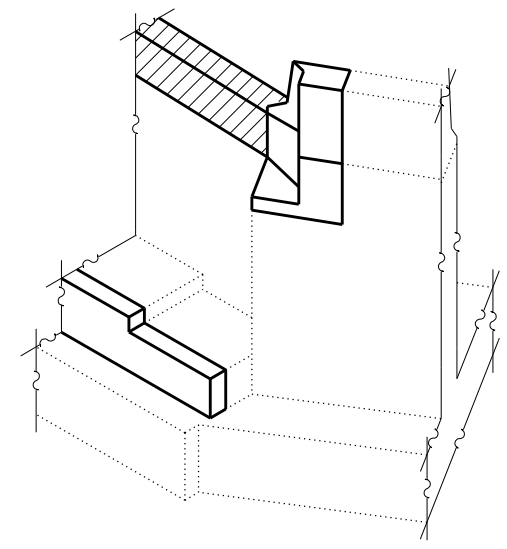
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	2	#5	20'-8"	—
h1(E)	6	#5	25'-6"	—
h2(E)	2	#5	28'-4"	—
h3(E)	1	#5	18'-4"	—
h4(E)	1	#5	27'-5"	—
h5(E)	1	#5	10'-0"	—
h6(E)	1	#5	5'-10"	—
h7(E)	1	#5	12'-6"	—
h8(E)	12	#5	25'-9"	—
h9(E)	4	#5	28'-3"	—
h10(E)	1	#5	21'-8"	—
h11(E)	1	#5	31'-3"	—
h12(E)	1	#5	16'-7"	—
h13(E)	1	#5	1'-11"	—
h14(E)	8	#5	26'-8"	—
h15(E)	2	#5	6'-3"	—
h16(E)	6	#5	26'-10"	—
h17(E)	1	#5	18'-3"	—
h18(E)	1	#5	25'-5"	—
h19(E)	8	#5	27'-3"	—
h20(E)	4	#5	9'-9"	—
h21(E)	7	#5	2'-9"	—
h22(E)	6	#4	4'-0"	—
s(E)	173	#5	2'-6"	┌
u(E)	175	#4	2'-1"	└
v(E)	2	#6	13'-8"	—
v1(E)	114	#5	2'-4"	—
v2(E)	62	#5	4'-0"	—
Structure Excavation		Cu. Yd.		37
Concrete Structures		Cu. Yd.		12.9
Reinforcement Bars, Epoxy Coated		Pound		2,880
Bar Splicers		Each		14
Concrete Sealer		Sq. Ft.		813

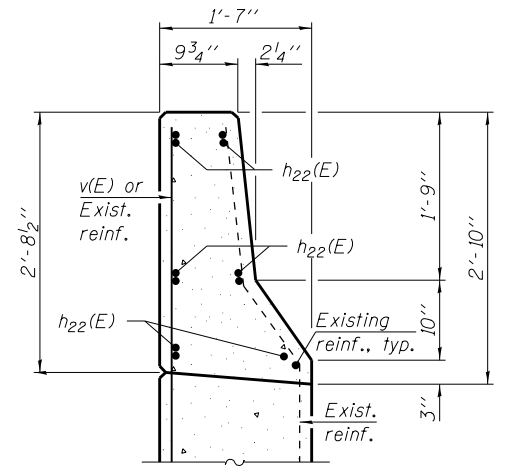
VIEW A-A



SECTION THRU PILE SUPPORTED SOUTH ABUTMENT
(Horiz. dim. at Rt. L's)



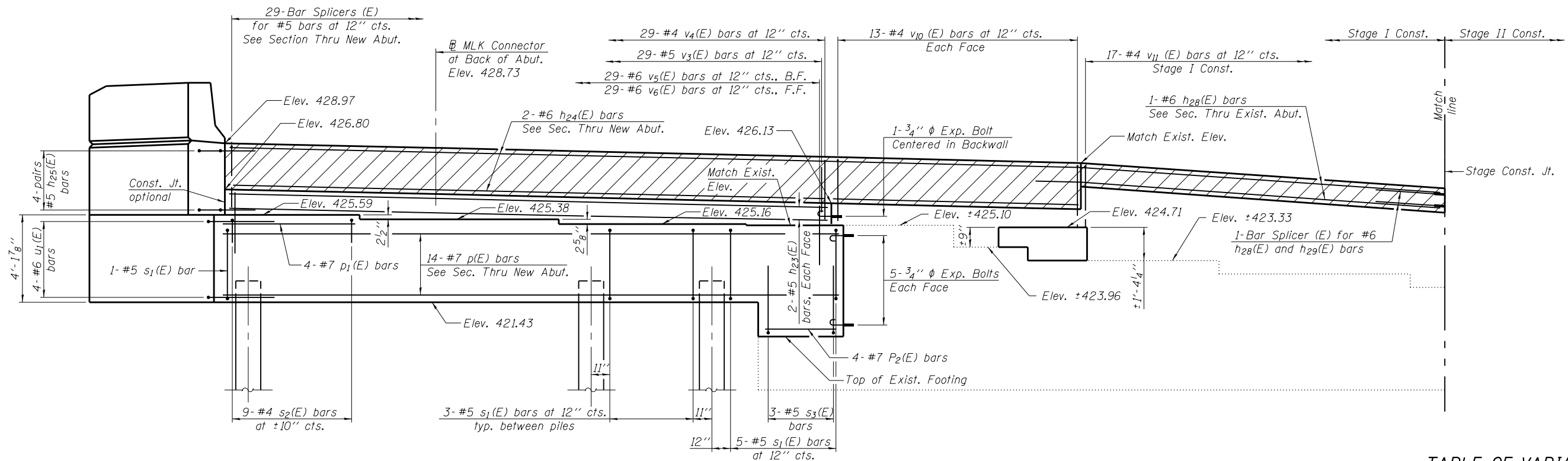
ISOMETRIC - VIEW B-B



SECTION C-C

Notes:
Existing reinforcement shall be cleaned and incorporated into new construction. Cost included in Concrete Removal.
Cut ends of existing reinforcement extending into new construction to maintain 1/2" minimum clearance.
Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete included with Concrete Superstructure.
Concrete Sealer shall be applied to the bearing seats extensions.
Quantity of concrete in the end post included with Concrete Superstructure, on sheet 32 of 143.
For Concrete Removal details, see sheet 15 of 143.

* Drill and epoxy grout reinforcement according to Section 584 of the Standard Specifications.
** Cut as required to maintain 1/2" cl.



PART ELEVATION

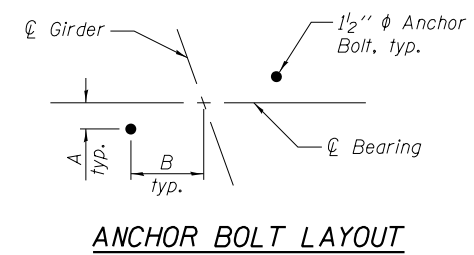
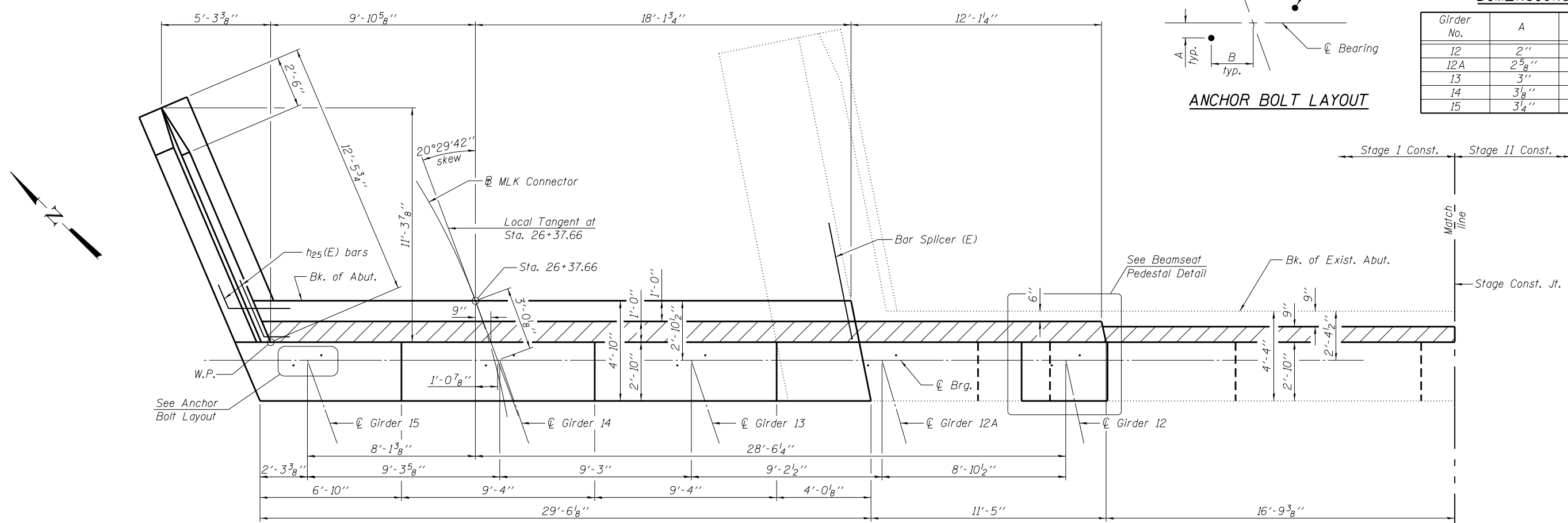


TABLE OF VARIABLE DIMENSIONS

Girder No.	A	B
12	2"	9 1/4"
12A	2 5/8"	9 1/8"
13	3"	9"
14	3 1/8"	9"
15	3 1/4"	9"

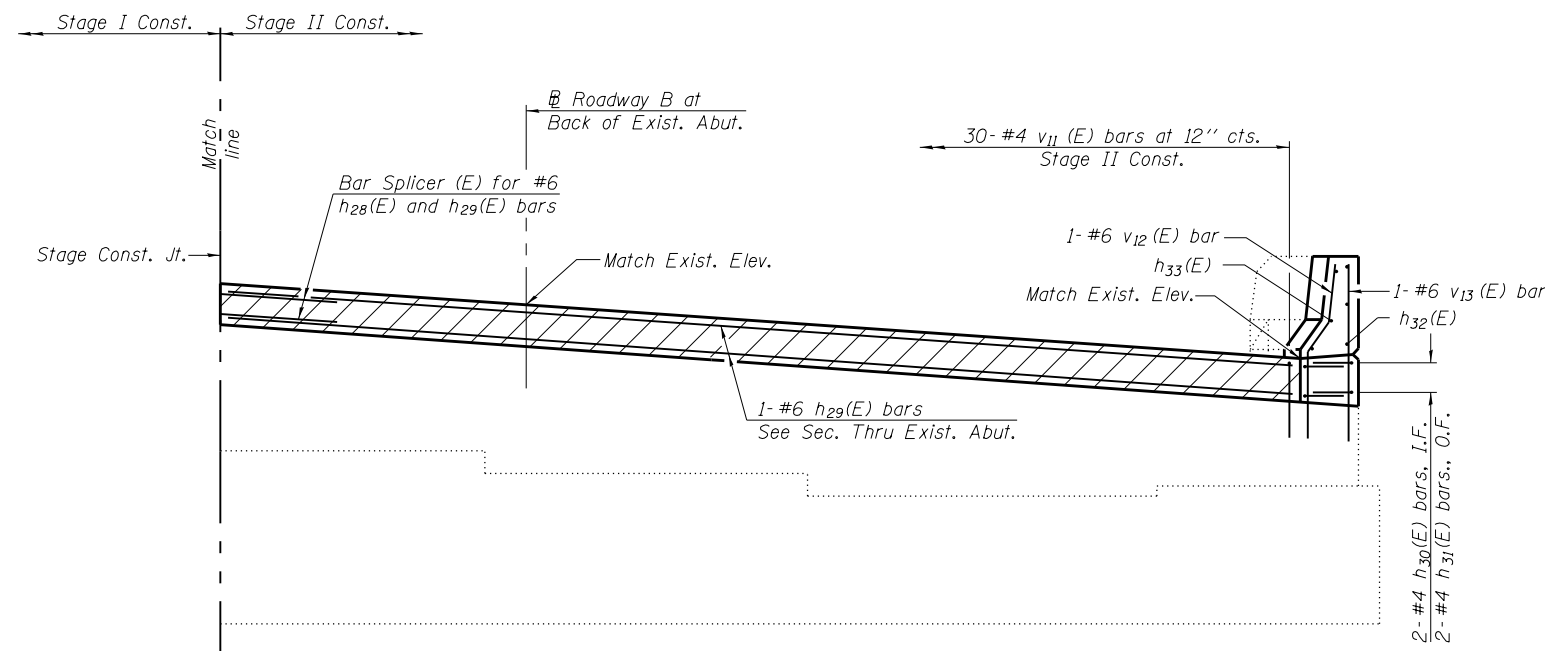


PART TOP VIEW

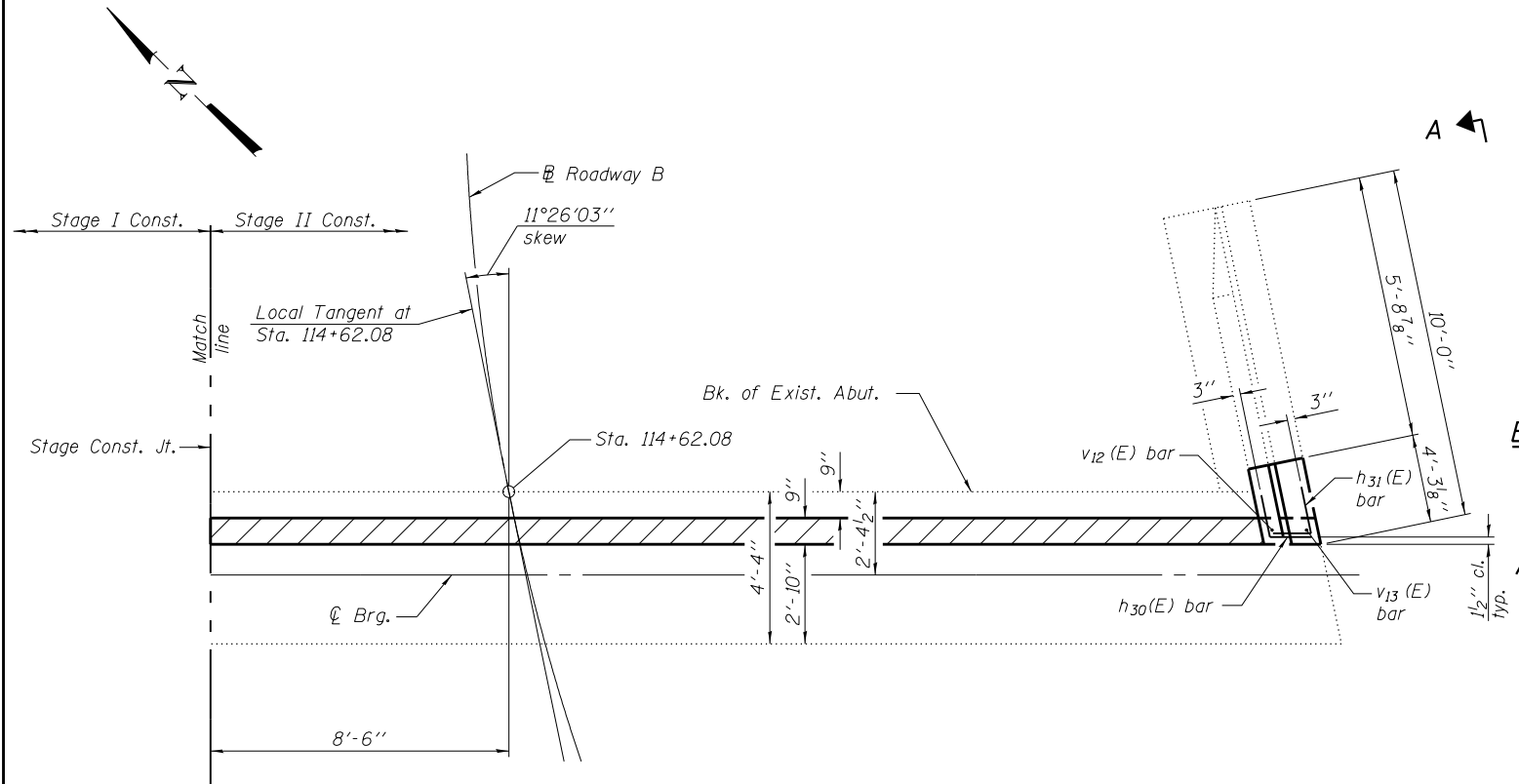
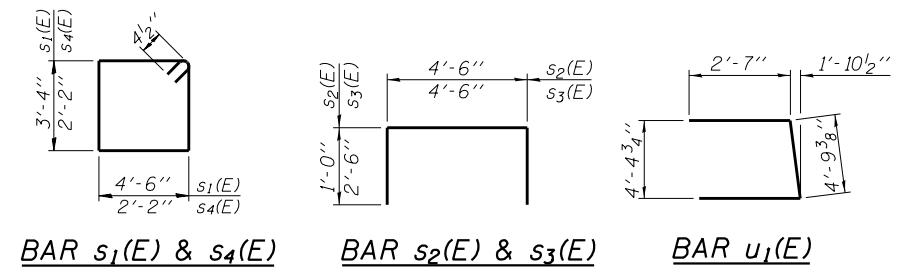
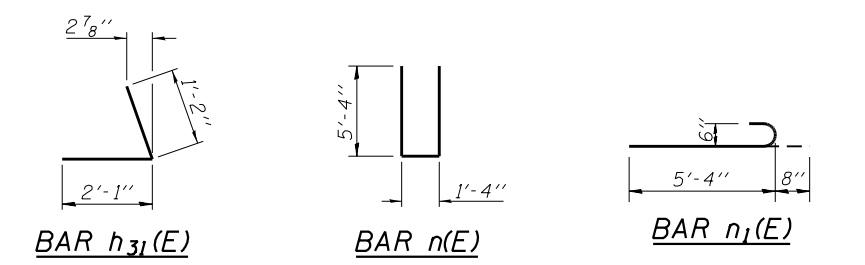
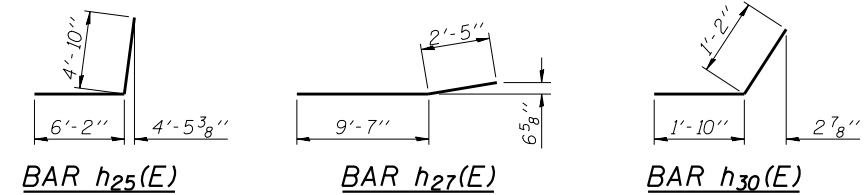
Notes:
 For Beamseat Pedestal Detail, see sheet 97 of 143.
 For Section Thru New Abut., see sheet 96 of 143.
 For Section Thru Exist. Abut., see sheet 97 of 143.

BILL OF MATERIAL

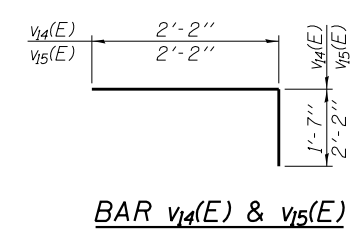
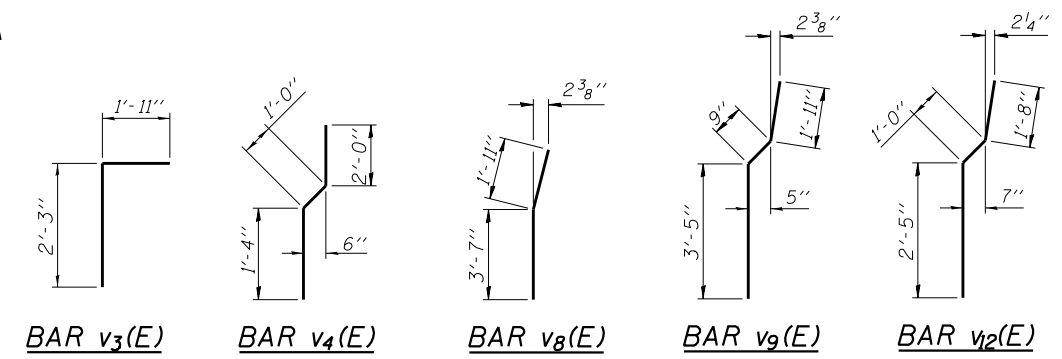
Bar	No.	Size	Length	Shape
h23(E)	4	#5	28'-1"	
h24(E)	4	#6	40'-0"	
h25(E)	8	#5	11'-0"	
h26(E)	9	#5	11'-6"	
h27(E)	9	#5	12'-0"	
h28(E)	2	#6	14'-6"	
h29(E)	2	#6	46'-6"	
h30(E)	2	#4	3'-0"	
h31(E)	2	#4	3'-3"	
h32(E)	3	#4	3'-10"	
h33(E)	3	#4	3'-7"	
n(E)	9	#6	12'-0"	
n1(E)	6	#6	6'-0"	
p(E)	14	#7	29'-2"	
p1(E)	4	#7	6'-7"	
p2(E)	4	#7	3'-8"	
p3(E)	6	#8	14'-7"	
s1(E)	24	#5	16'-5"	
s2(E)	9	#4	6'-6"	
s3(E)	3	#5	9'-6"	
s4(E)	12	#4	9'-5"	
u1(E)	4	#6	9'-11"	
v3(E)	29	#5	4'-2"	
v4(E)	29	#4	4'-4"	
v5(E)	29	#6	3'-4"	
v6(E)	29	#6	5'-6"	
v7(E)	12	#6	5'-11"	
v8(E)	3	#6	5'-6"	
v9(E)	9	#6	6'-1"	
v10(E)	26	#4	3'-0"	
v11(E)	47	#4	2'-0"	
v12(E)	1	#6	5'-1"	
v13(E)	1	#6	4'-11"	
v14(E)	2	#5	3'-9"	
v15(E)	3	#5	4'-4"	
v34(E)	5	#5	3'-3"	
v35(E)	3	#5	3'-9"	
Structure Excavation		Cu. Yd.	71	
Concrete Structures		Cu. Yd.	35.3	
Reinforcement Bars, Epoxy Coated		Pound	3,850	
Bar Splicers		Each	29	
Furnishing Metal Shell Piles 14" x 0.250"		Foot	427	
Driving Piles		Foot	427	
Expansion Bolts 3/4"		Each	11	
Test Pile Metal Shells		Each	1	
Concrete Sealer		Sq. Ft.	421	



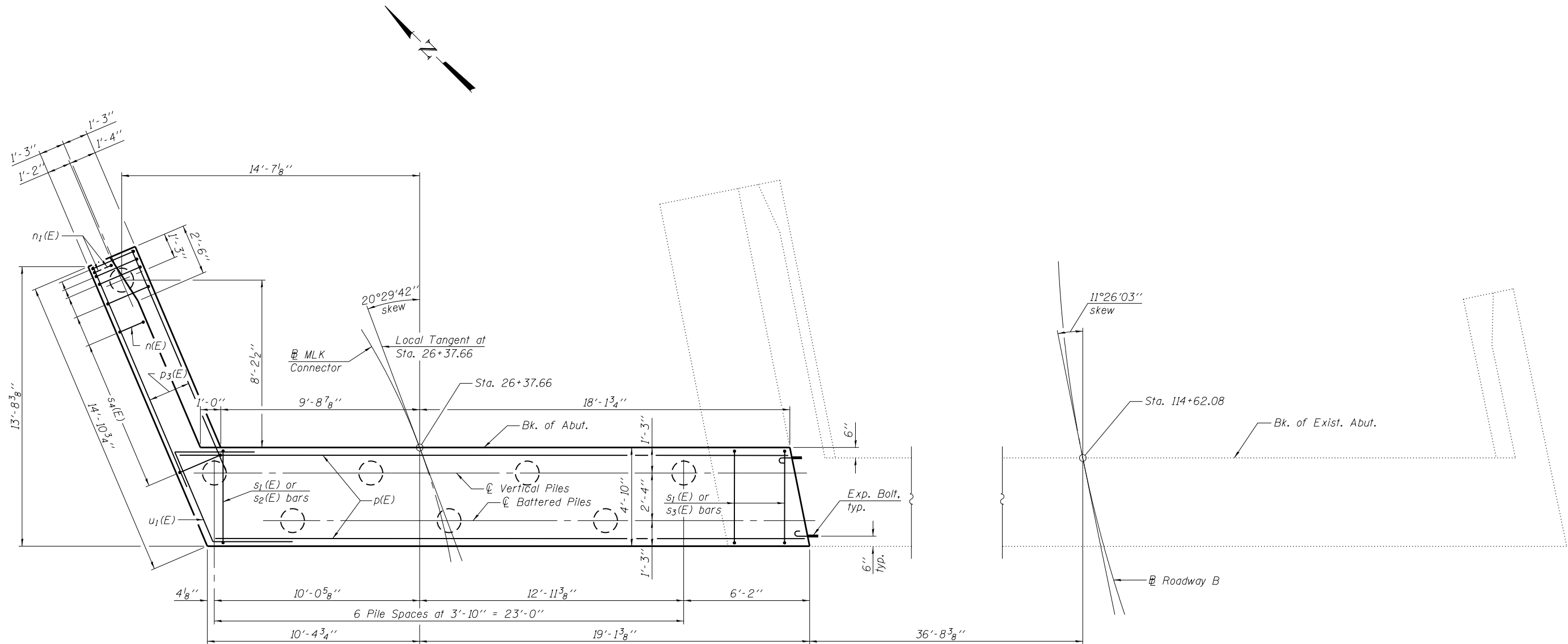
PART ELEVATION



PART TOP VIEW



Notes:
 For details of Bar Splicers, see sheet 125 of 143.
 For details of Metal Shell Piles, see sheet 124 of 143.
 For Section Thru New Abut., see sheet 96 of 143.
 For Section Thru Existing Abut., see sheet 97 of 143.



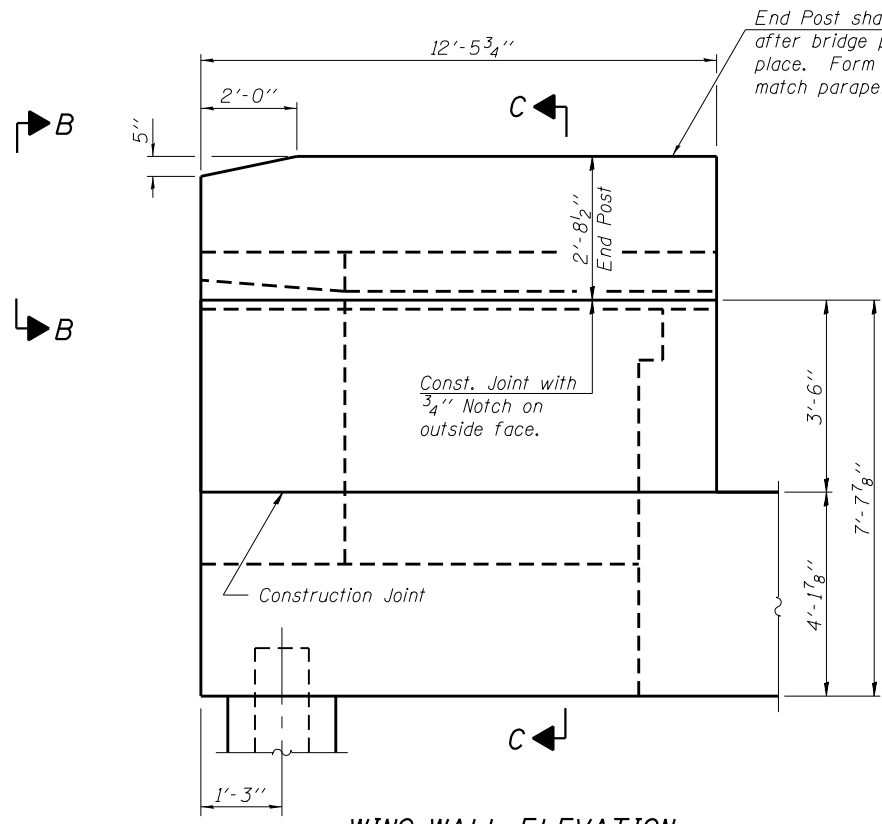
PART PLAN - PILE CAP

PILE DATA

Type: Metal Shell - 14" ϕ x 0.250" wall
 Nominal Required Bearing: 450 kips
 Allowable Resistance Available: 150 kips
 Est. Length: 61 ft.
 No. Production Piles: 7
 No. Test Piles: 1

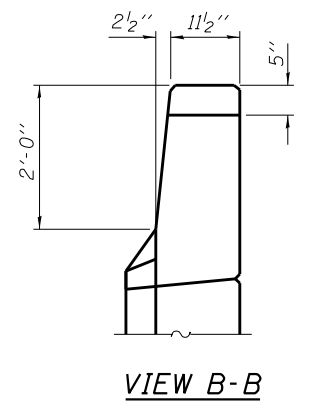
Note:
 For details of Metal Shell piles, see sheet 124 of 143.

FILE NAME = X:\1309400-MLK\Cad\10-76G09.dgn USER NAME = elagemann PLOT SCALE = PLOT DATE = 8/7/2014	DESIGNED - M.A. Corkey CHECKED - T.P. Lohman DRAWN - C.A. Buettner CHECKED -	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTH ABUTMENT STRUCTURE NO. 082-0010	F.A.I. RTÉ. SECTION COUNTY TOTAL SHEETS SHEET NO. 64 82-(1,4)B-1 ST. CLAIR 406 287
					SHEET NO. 95 OF 143 SHEETS

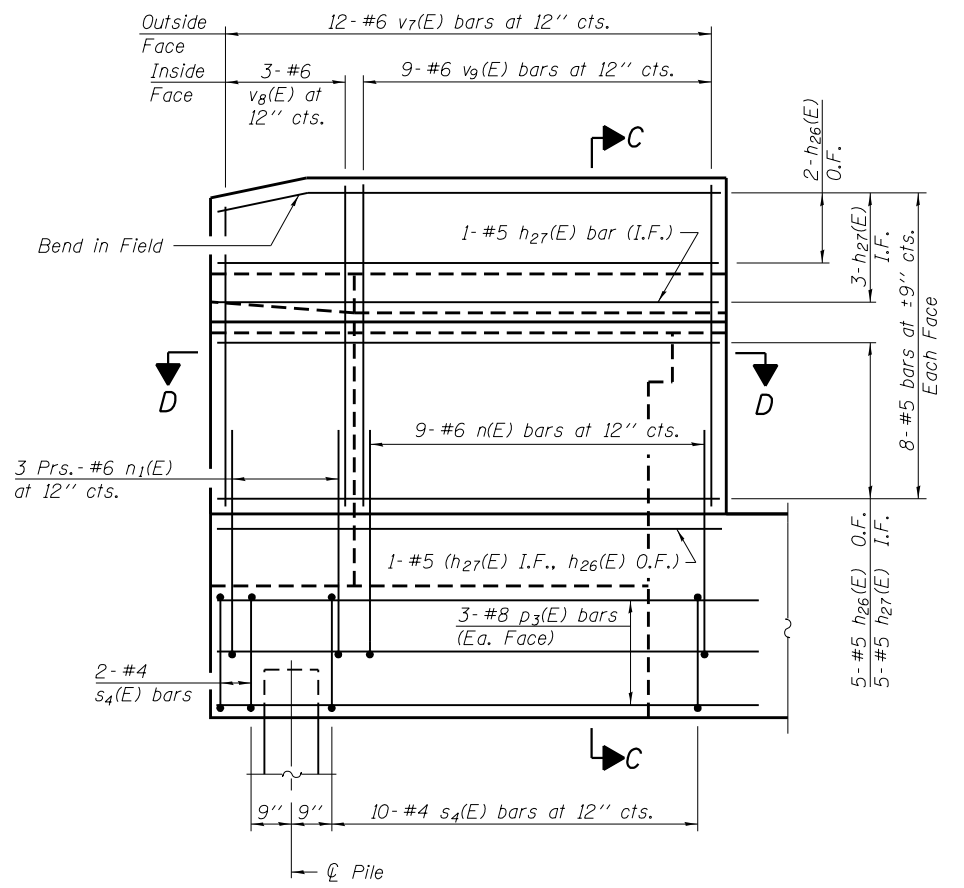


WING WALL ELEVATION
Showing Dimensions

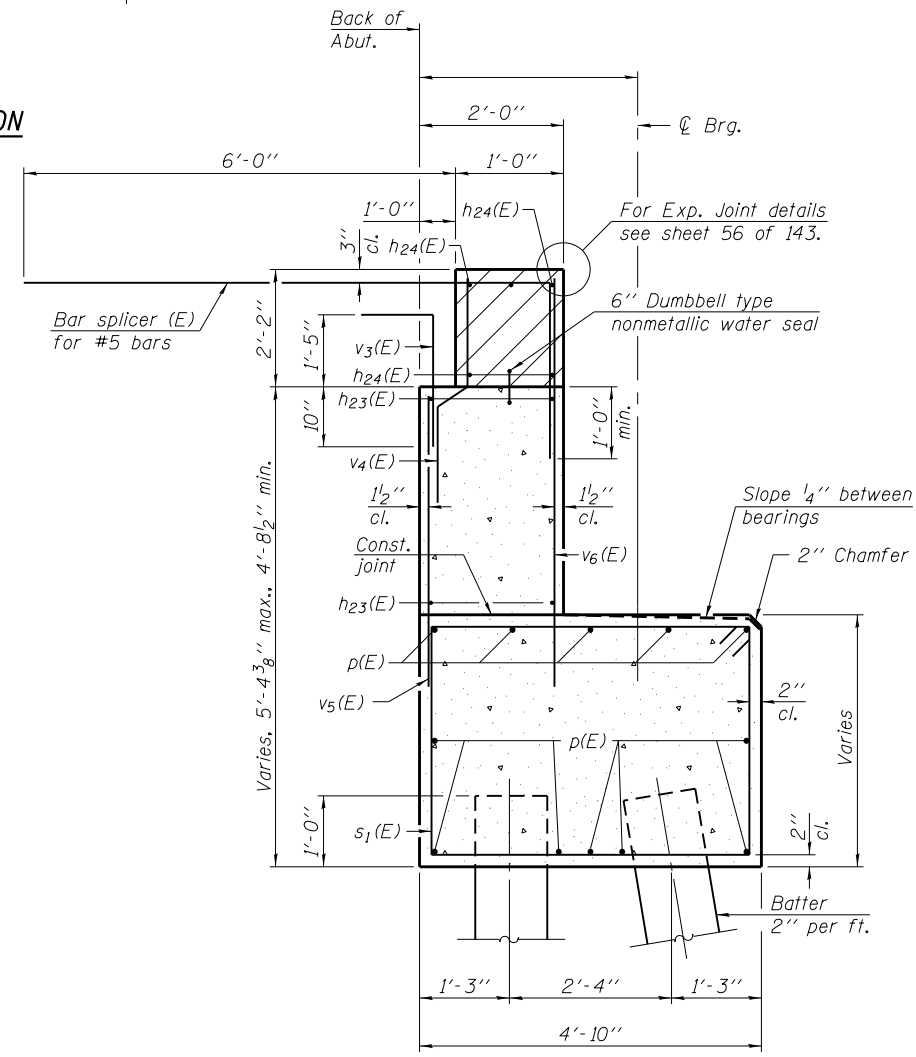
End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



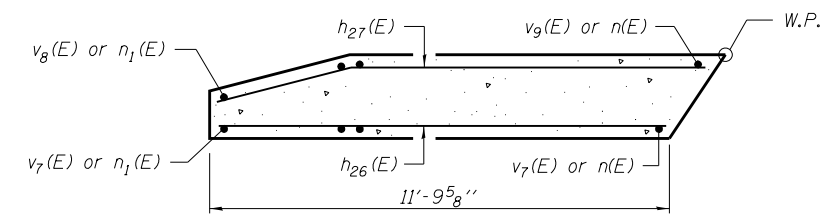
VIEW B-B



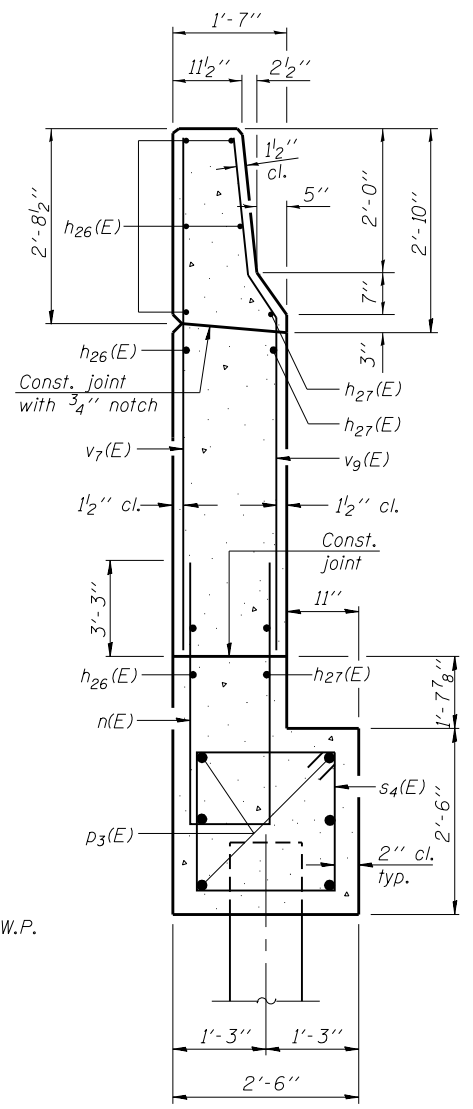
WING WALL ELEVATION
Showing Reinforcement



SEC. THRU NEW ABUT.



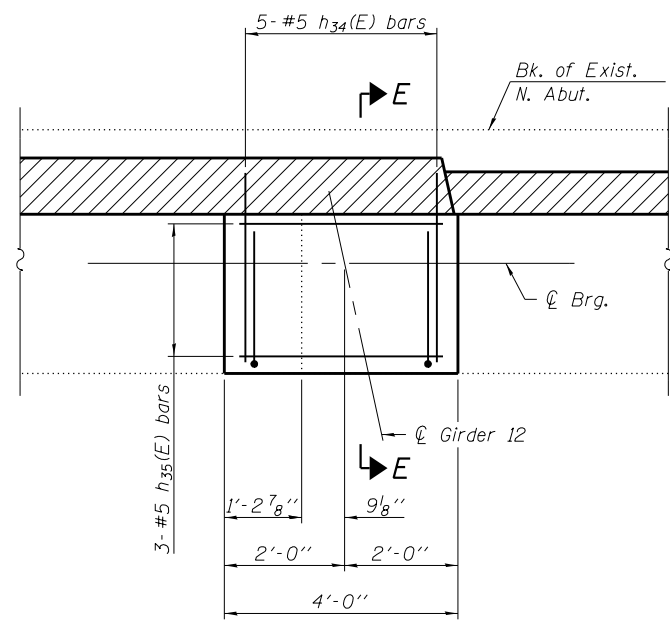
SECTION D-D



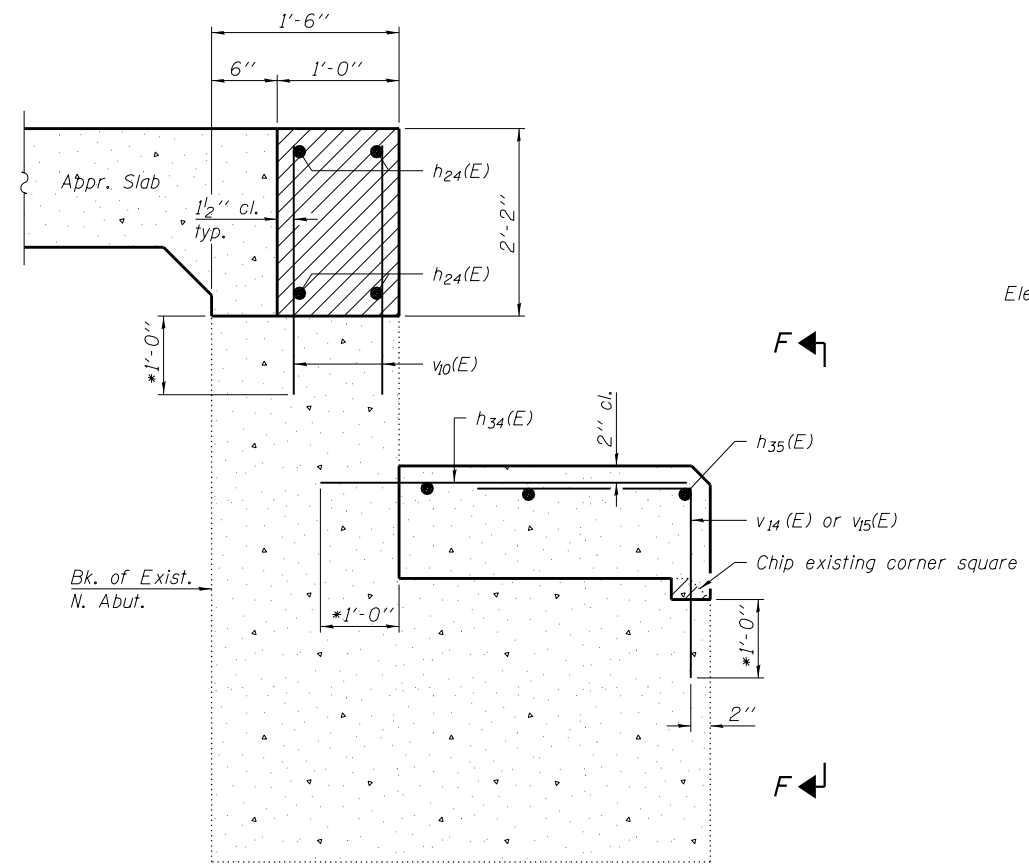
SECTION C-C

Notes:
 Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 Quantity of concrete in end post included with Concrete Superstructure on sheet 47 of 143.

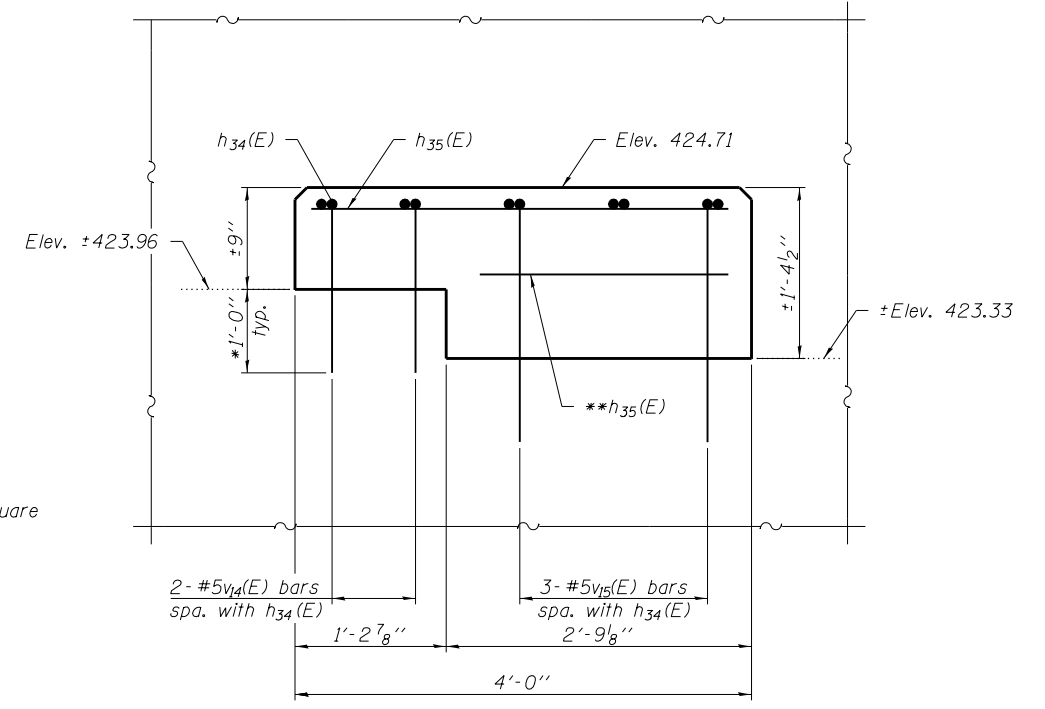
FILE NAME = X:\1309400-MLK\Cad\10-76009.dgn HORNER & SHIFRIN, INC. ENGINEERS	USER NAME = elagemann	DESIGNED - M.A. Chorkey	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTH ABUTMENT STRUCTURE NO. 082-0010	F.A.I. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	DRAWN - C.A. Buettner	REVISED			64	82-(1,4)B-1	ST. CLAIR	406	288
	PLOT DATE = 8/7/2014	CHECKED - T.S. Friederich	REVISED			CONTRACT NO. 76009				
							ILLINOIS FED. AID PROJECT			



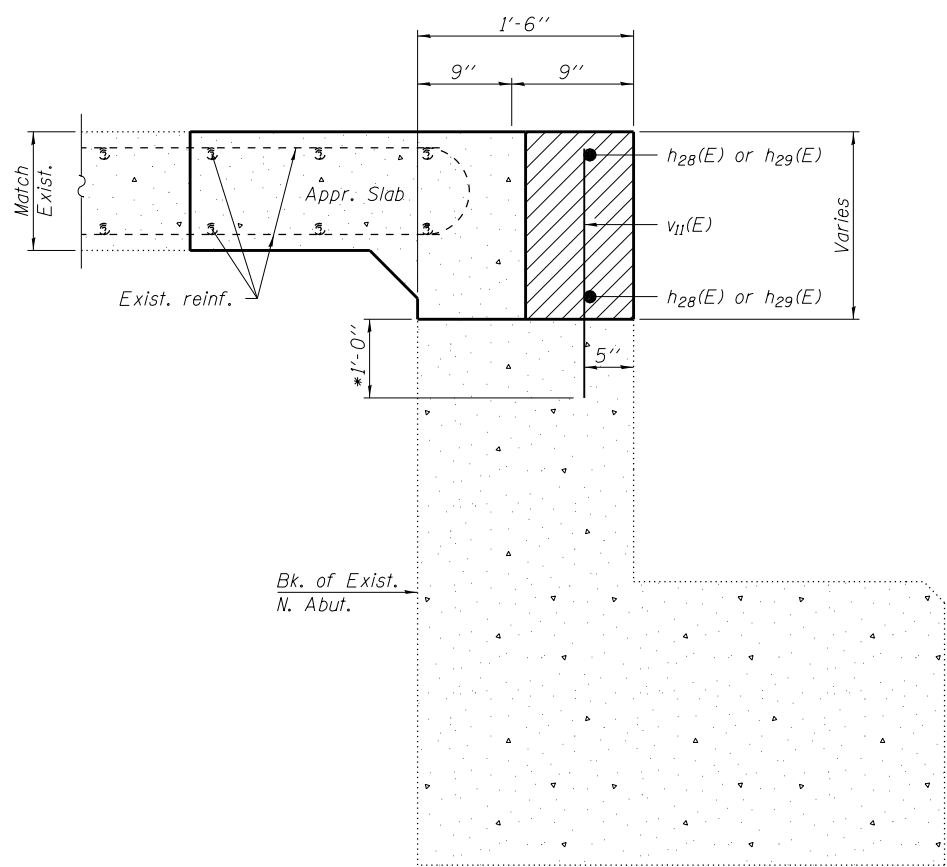
BEAMSEAT PEDESTAL DETAIL



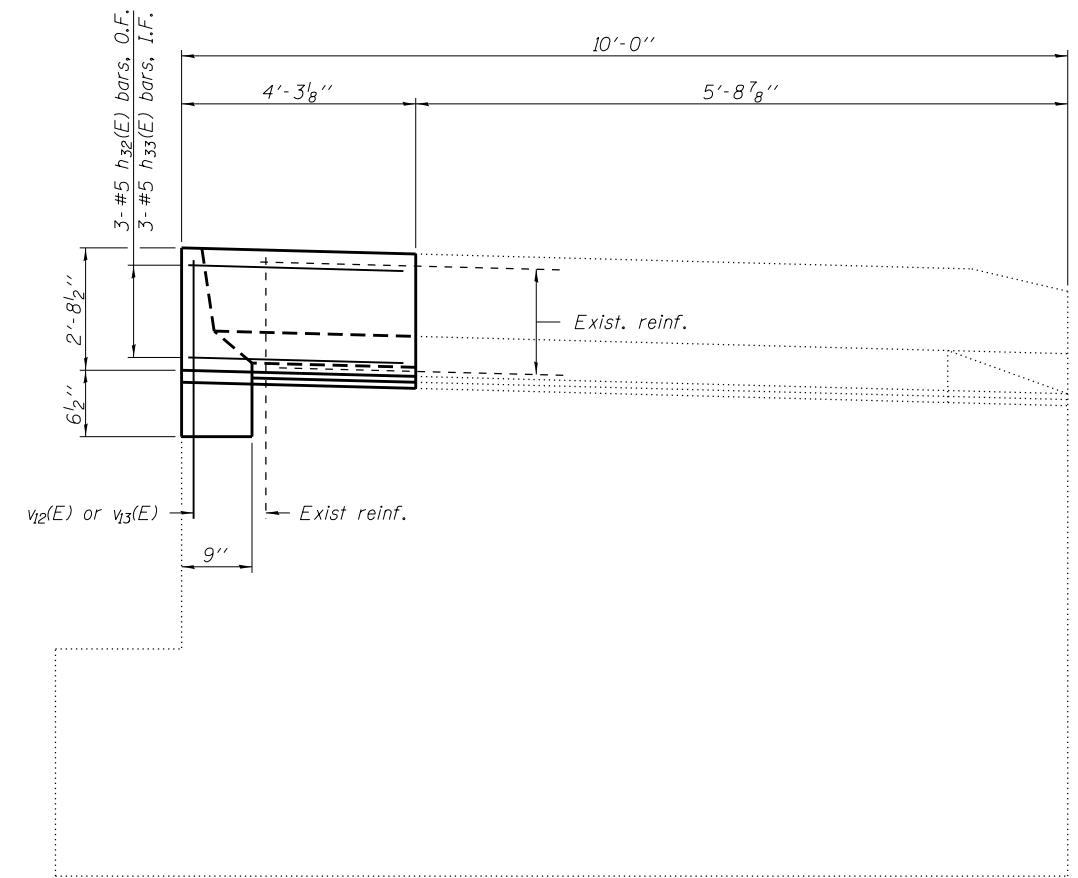
SECTION E-E



VIEW F-F



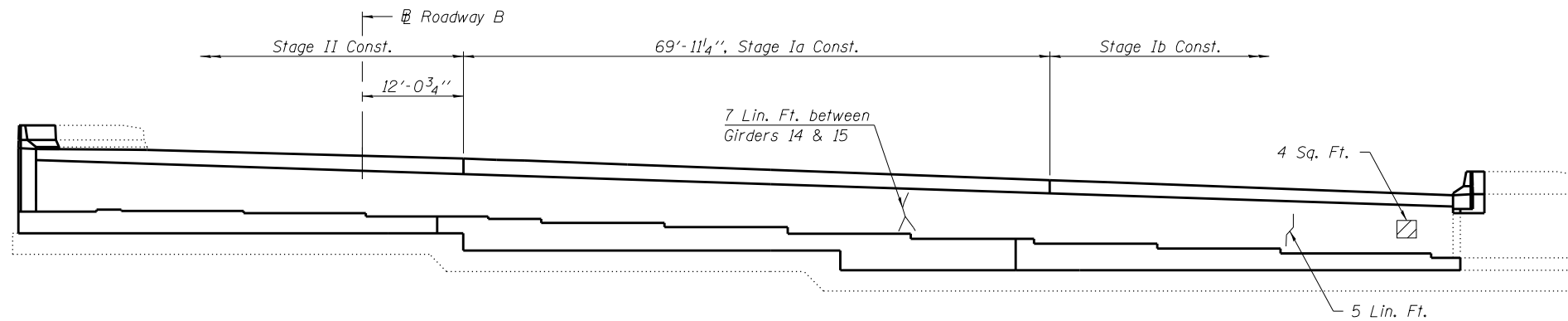
SECTION THRU EXIST. ABUT.



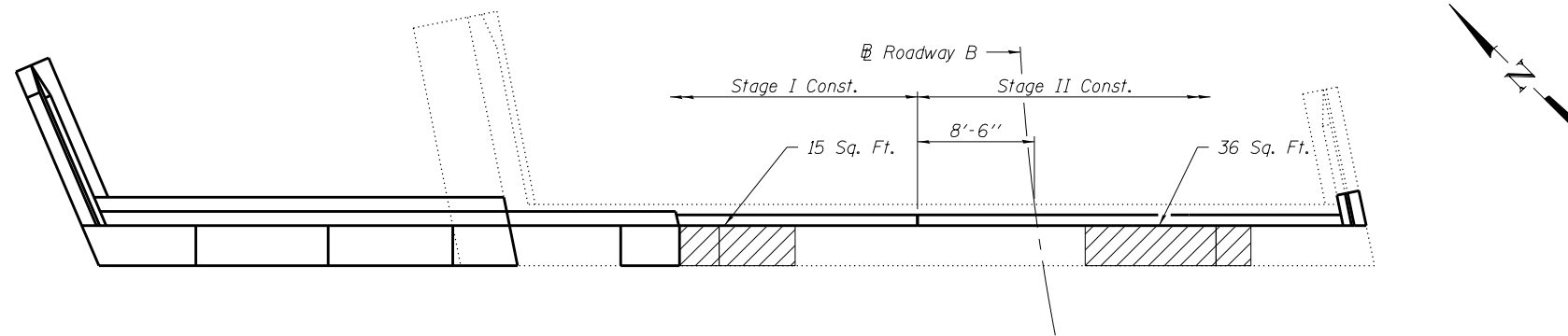
VIEW A-A

* Drill and epoxy grout reinforcement according to Section 584 of the Standard Specifications.
 ** Cut to maintain 1/2" clearance.

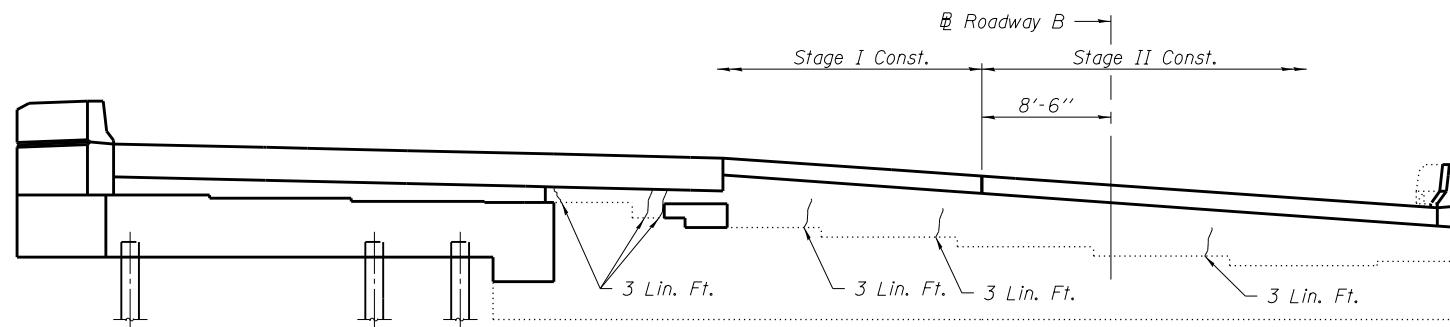
Notes:
 Existing reinforcement shall be cleaned and incorporated into new construction. Cost included in Concrete Removal.
 Hatched area to be poured after superstructure falsework has been removed. Quantity included with Concrete Superstructure.
 Quantity of concrete in the end of post included with Concrete Superstructure, on sheet 47 of 143.



ELEVATION-SOUTH ABUTMENT
(Looking South)



PLAN-NORTH ABUTMENT



ELEVATION-NORTH ABUTMENT
(Looking North)

Note:
Repairs shall be made during their respective stage of construction.

LEGEND

Structural Repair of Concrete
(Depth Equal to or Less Than 5 inches)

Epoxy Crack Injection

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or less than 5 inches.)	Sq. Ft.	55
Epoxy Crack Injection	Foot	30

FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn	DESIGNED - E.M. Lagemann	REVISED
USER NAME = elagemann	CHECKED - K.A. Klues	REVISED
PLOT SCALE =	DRAWN - J.N. Bailey	REVISED
PLOT DATE = 8/7/2014	CHECKED - K.A. Klues	REVISED

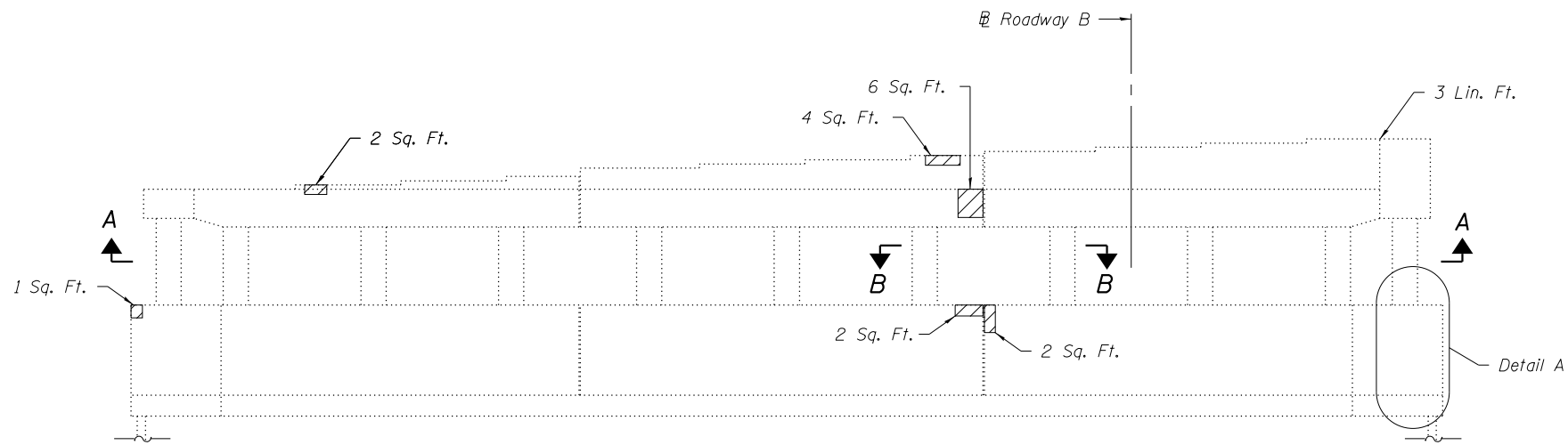


**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

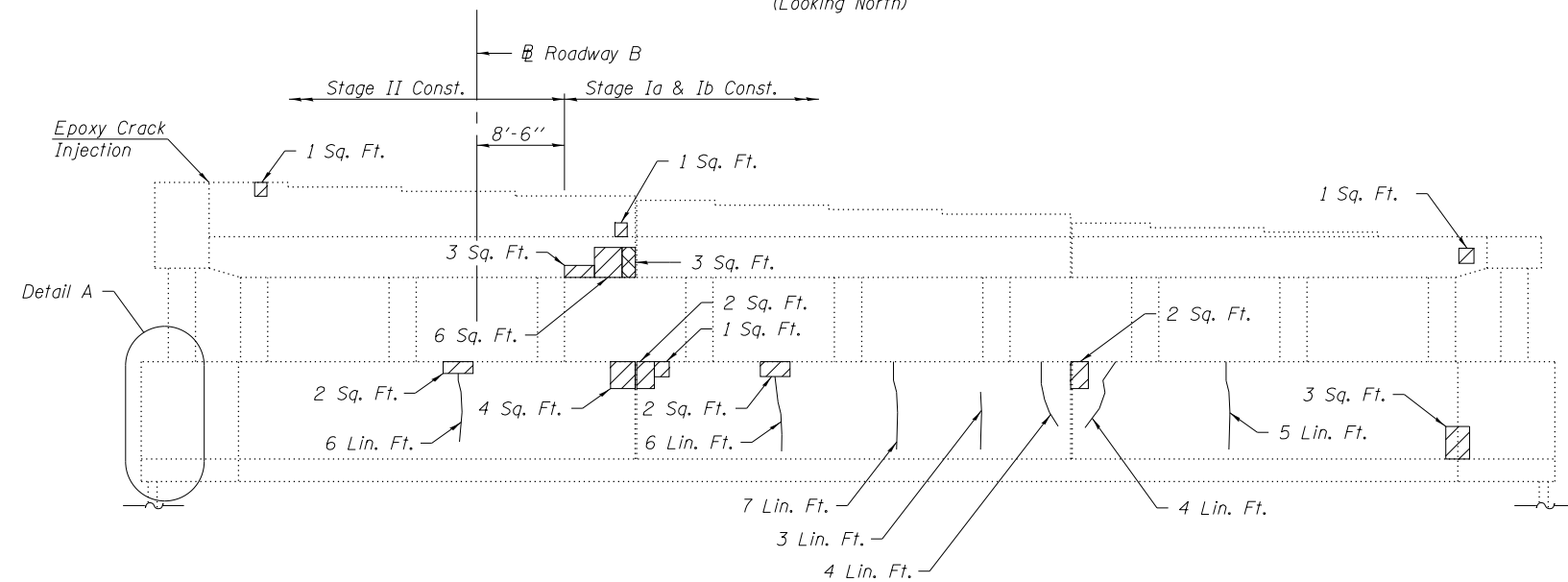
**ABUTMENT REPAIR DETAILS
STRUCTURE NO. 082-0010**

SHEET NO. 98 OF 143 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	82-(1,4)B-1	ST. CLAIR	406	290
CONTRACT NO. 76G09				
ILLINOIS FED. AID PROJECT				



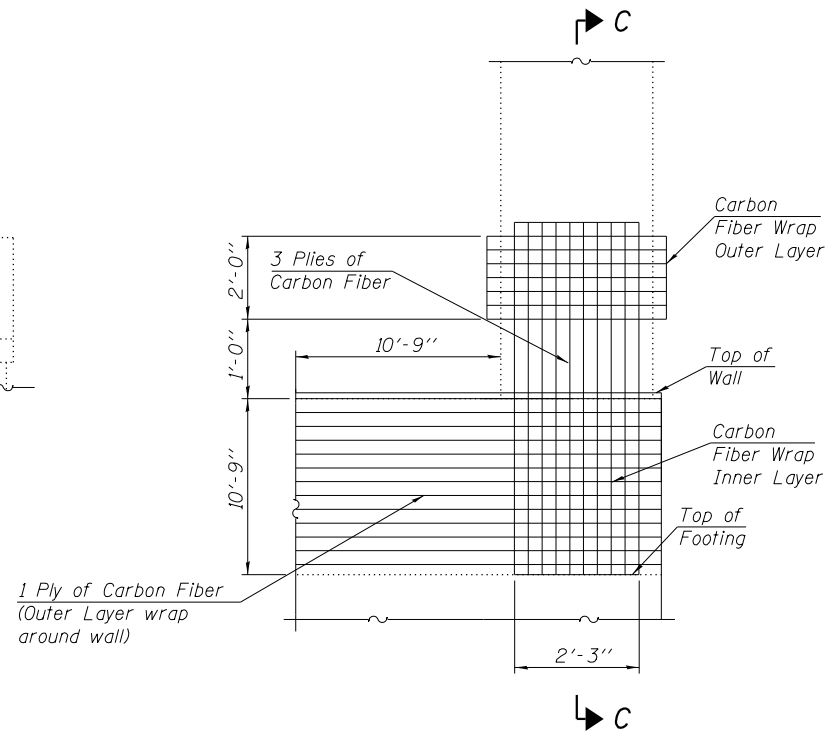
ELEVATION
(Looking North)



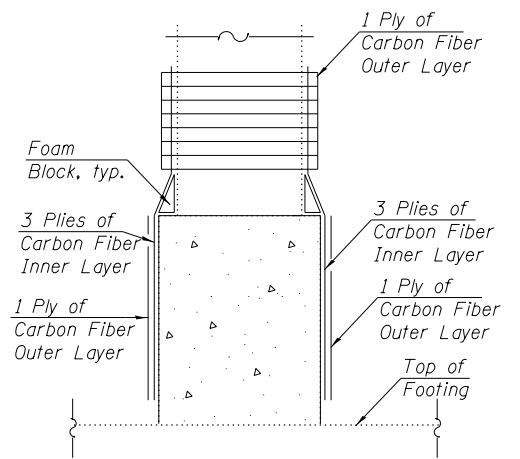
ELEVATION
(Looking South)



SECTION A-A



DETAIL A

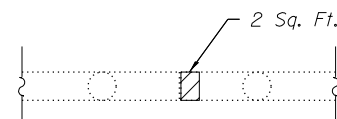


SECTION C-C

Note:
Horizontal dimensions shown are perpendicular to Roadway B.

LEGEND

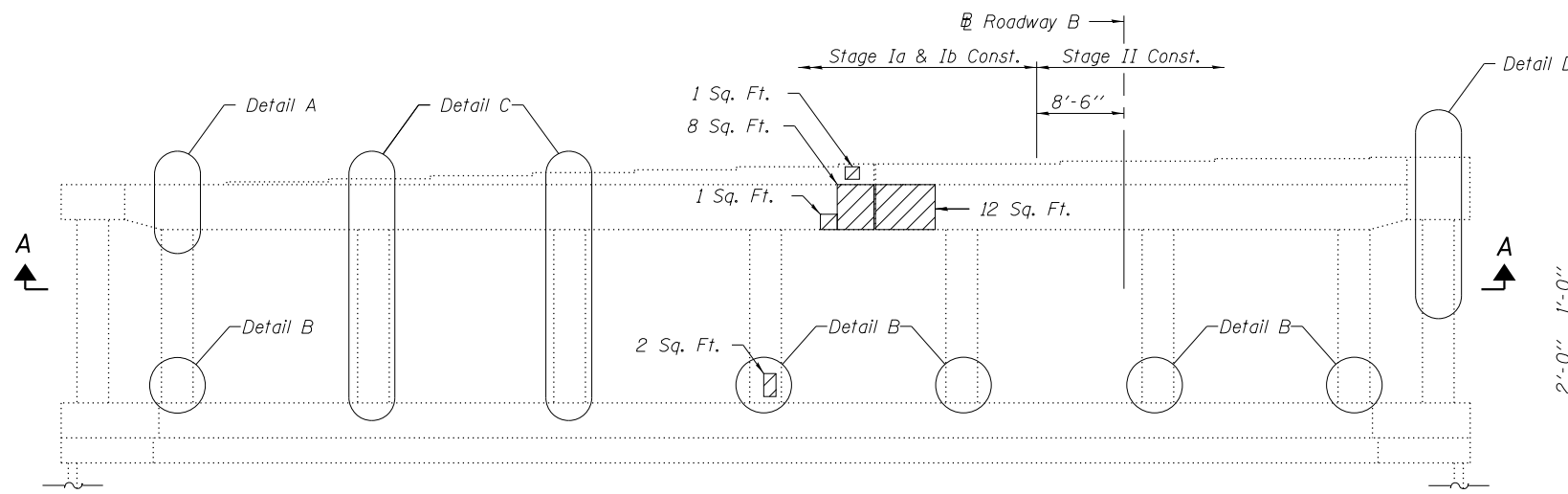
- Structural Repair of Concrete (Depth Equal to or Less Than 5 inches)
- Structural Repair of Concrete (Depth Greater Than 5 inches)
- Epoxy Crack Injection



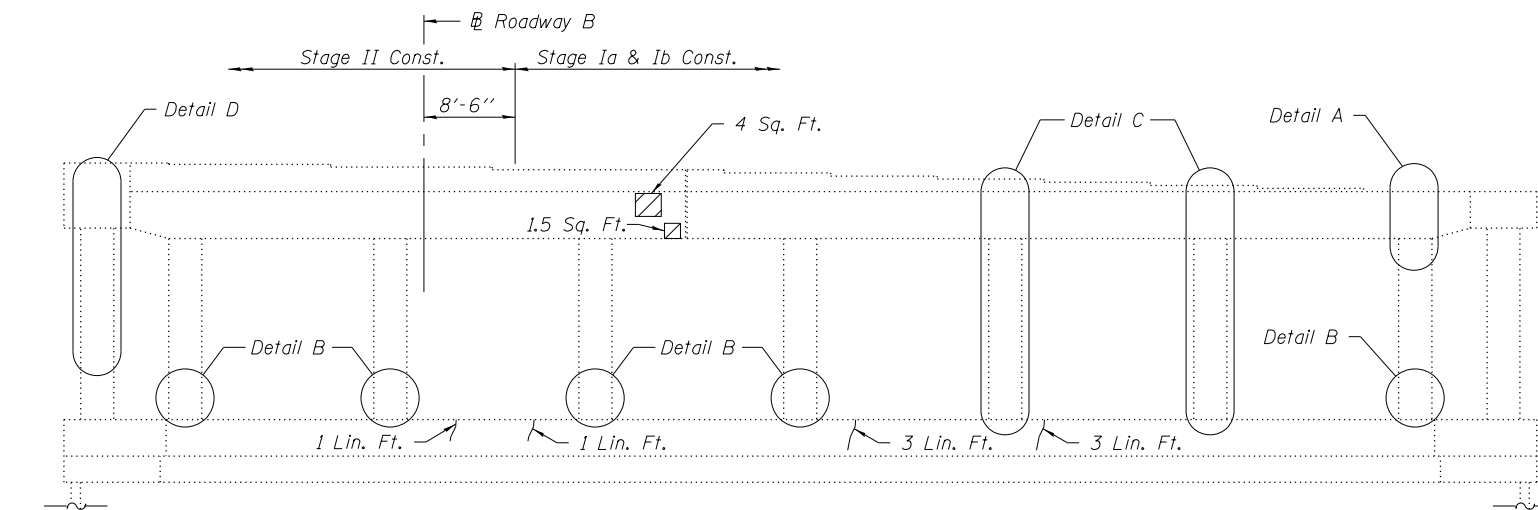
SECTION B-B

BILL OF MATERIAL

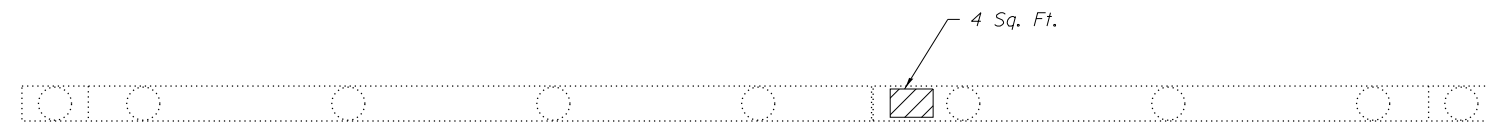
ITEM	UNIT	TOTAL
Epoxy Crack Injection	Foot	35
Acrylic Coating	Sq. Yd.	48
Fiber Wrap	Sq. Ft.	435
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	56
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	7



ELEVATION
(Looking North)



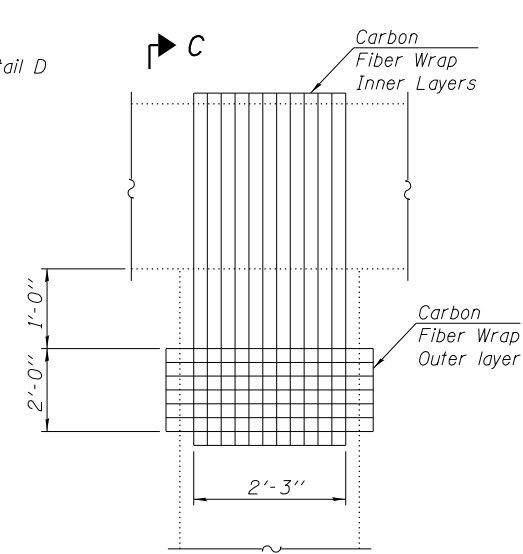
ELEVATION
(Looking South)



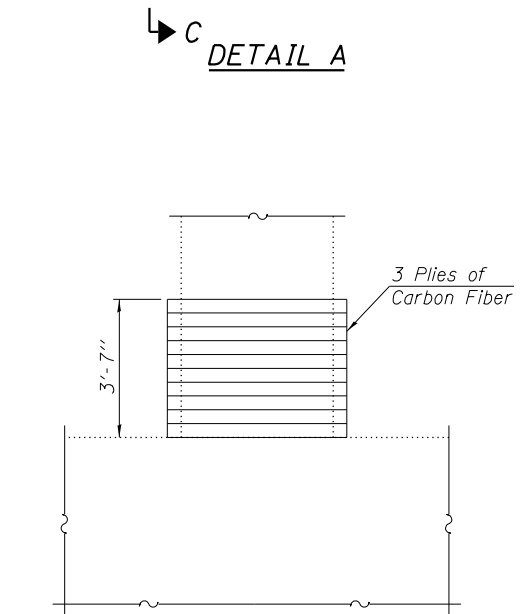
SECTION A-A

LEGEND

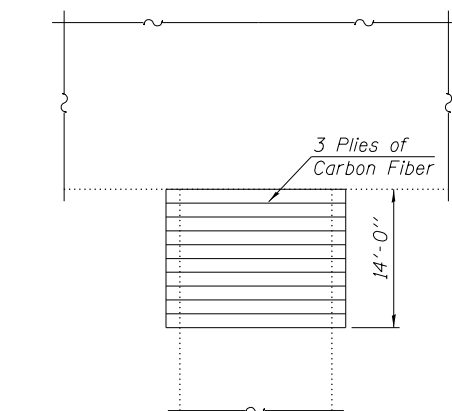
- Structural Repair of Concrete (Depth Equal to or Less Than 5 inches)
- Structural Repair of Concrete (Depth Greater Than 5 inches)
- Epoxy Crack Injection



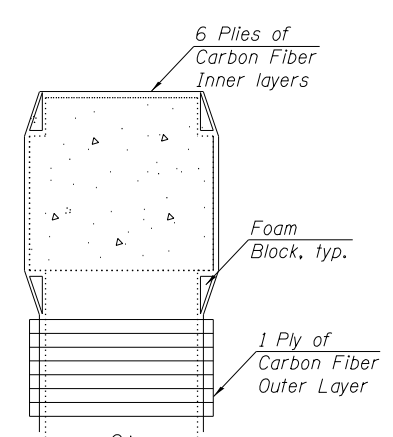
DETAIL A



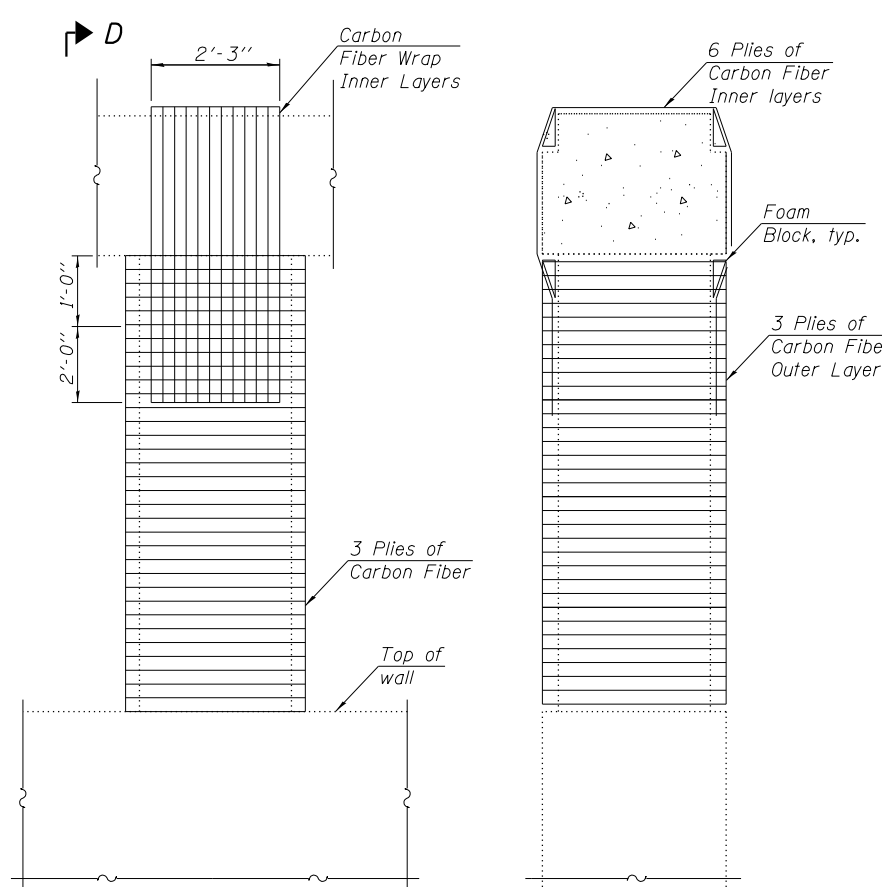
DETAIL B



DETAIL D



SECTION C-C



SECTION D-D

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Epoxy Crack Injection	Foot	8
Acrylic Coating	Sq. Yd.	90
Fiber Wrap	Sq. Ft.	813
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	34

FILE NAME = X:\1309400-MLK\Cad\5\082010-76009.dgn



USER NAME = elagemann
PLOT SCALE =
PLOT DATE = 8/7/2014

DESIGNED - J.J. Derner
CHECKED - M.A. Chorkey
DRAWN - J.N. Bailey
CHECKED - E.M. Lagemann

REVISED
REVISED
REVISED
REVISED

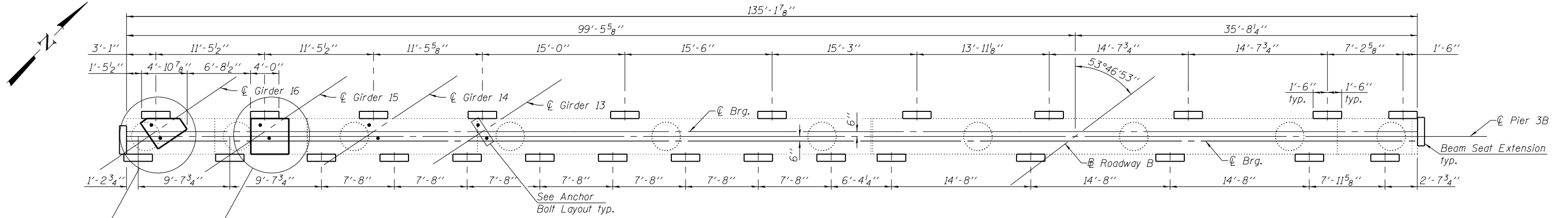
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 2B REPAIR DETAILS
STRUCTURE NO. 082-0010**

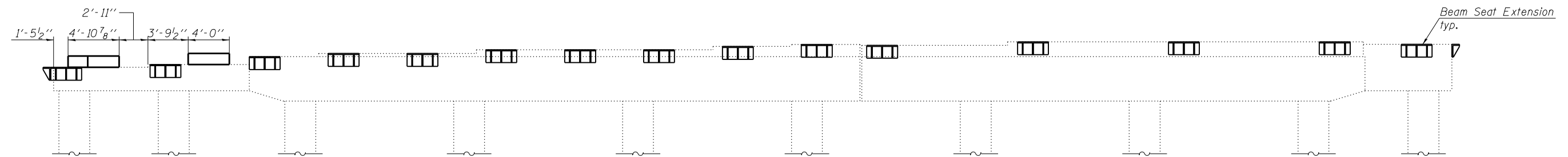
SHEET NO. 100 OF 143 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	82-(1,4)B-1	ST. CLAIR	406	292
				CONTRACT NO. 76C09

ILLINOIS FED. AID PROJECT

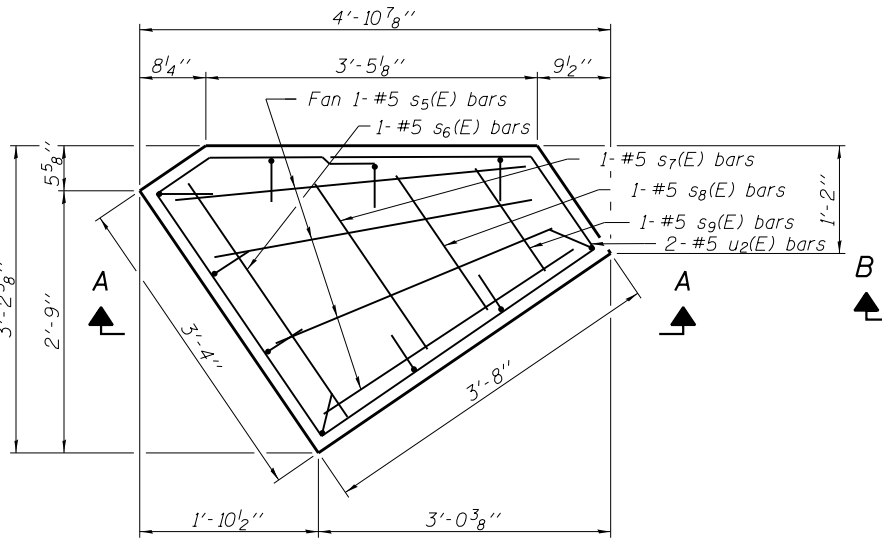


TOP PLAN

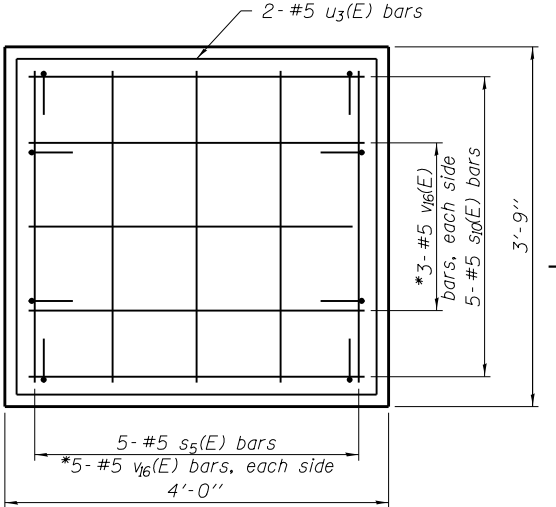


PART ELEVATION

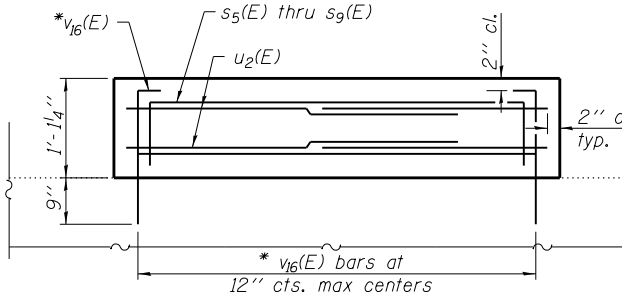
(Looking North)



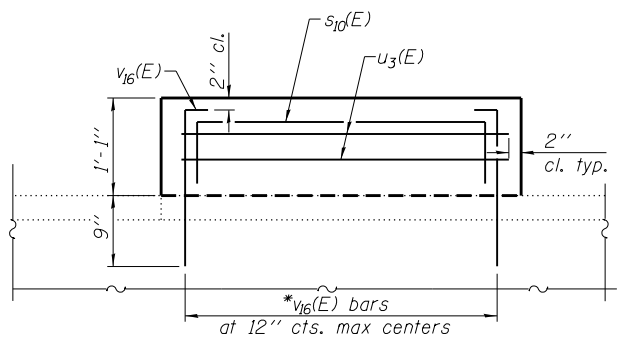
DETAIL A



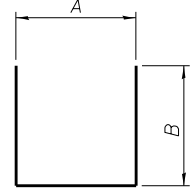
DETAIL B



SECTION A-A



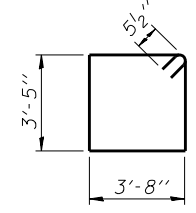
SECTION B-B



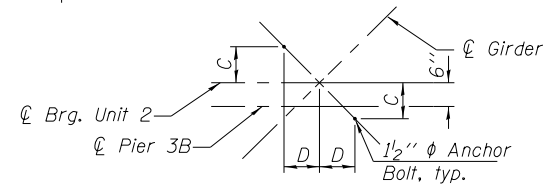
BARS s₅(E) thru s₁₀(E)

A & B DIMENSIONS

Bar	A	B
s ₅ (E)	3'-2"	9"
s ₆ (E)	2'-9"	9"
s ₇ (E)	2'-5"	9"
s ₈ (E)	1'-10"	9"
s ₉ (E)	1'-3"	9"
s ₁₀ (E)	3'-6"	9"



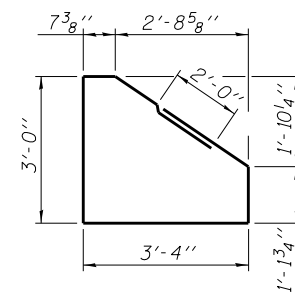
BAR u₃(E)



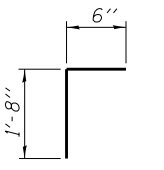
ANCHOR BOLT LAYOUT

TABLE OF VARIABLE DIMENSION

Girder	C	D
13	9 1/8"	6"
14	9"	6"
15	9"	6 1/8"
16	9"	6 1/8"



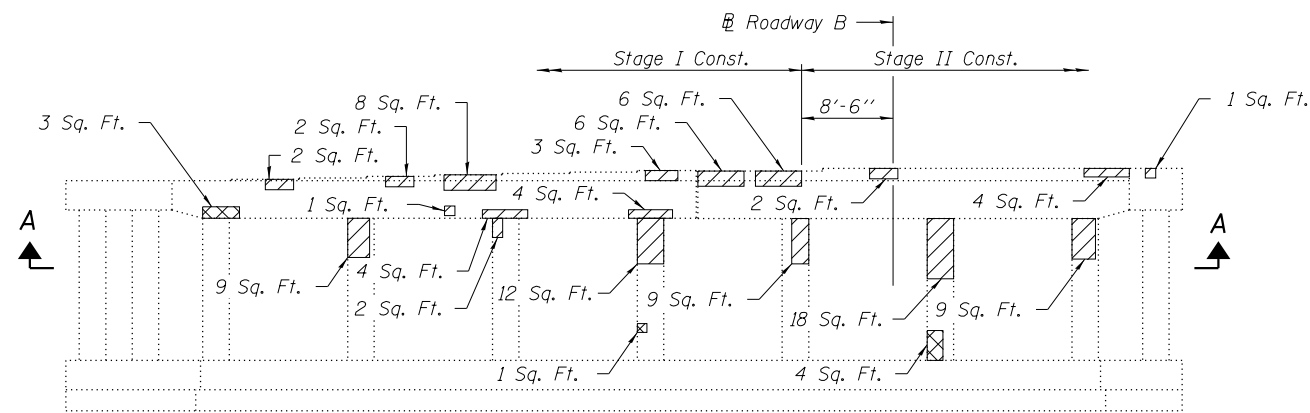
BAR u₂(E)



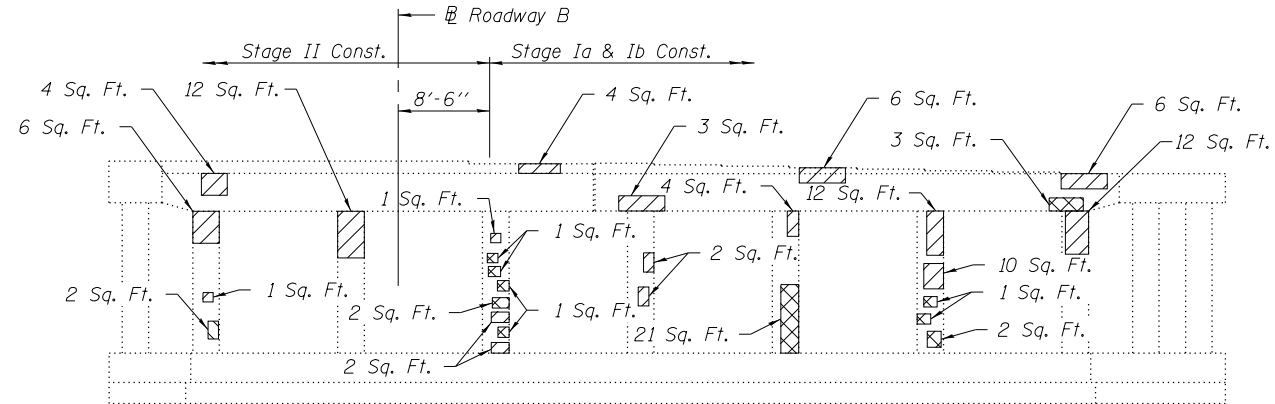
BAR v₁₆(E)

Notes:
Space reinforcement in cap to miss anchor bolts.

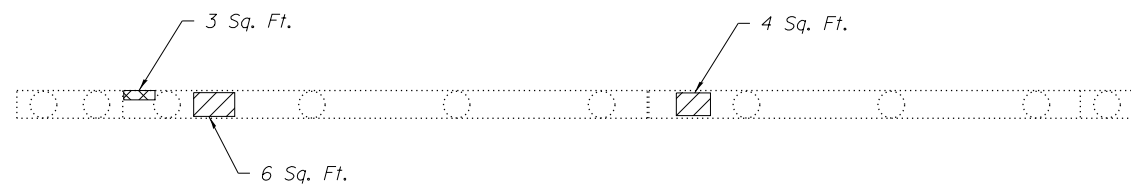
*Drill and epoxy grout reinforcement to Section 584 of the Standard Specification.



ELEVATION
(Looking North)



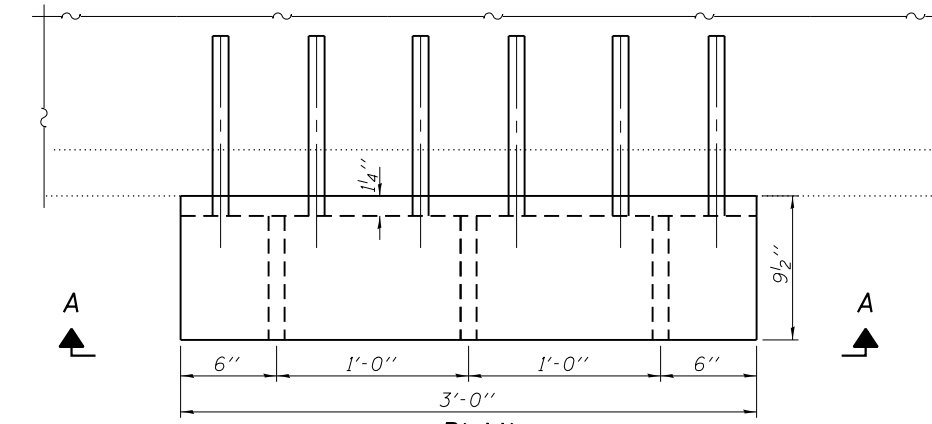
ELEVATION
(Looking South)



SECTION A-A

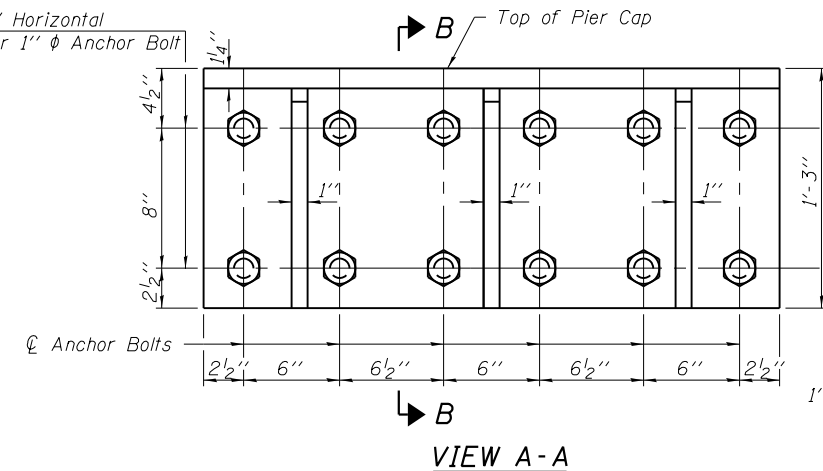
LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 inches)
- Structural Repair of Concrete (Depth Greater Than 5 inches)
- Epoxy Crack Injection

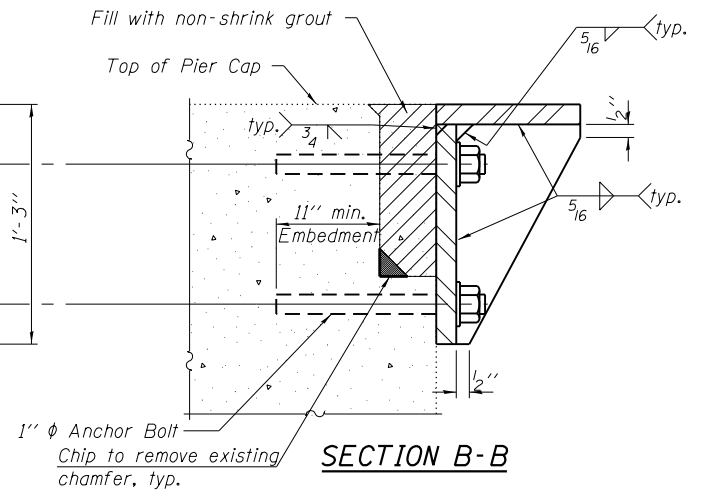


PLAN

1/16" x 1 5/16" Horizontal slotted hole for 1" φ Anchor Bolt



BEAM SEAT EXTENSION DETAILS
(28 Required)

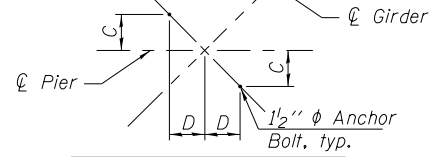


Notes:
 All Anchor bolts, nuts, and oversized hardened washers shall be galvanized.
 Cost of non-shrink grout is included in Furnishing and Erecting Structural Steel.
 Nonshrink grout shall have a minimum compressive strength of $f'c=4,000$ psi at 28 days.
 Anchor bolt capacity shall be reduced for spacing and edge distance limitation.
 Anchor bolts shall have combined tension and shear capacity of 14.0 kips and 5.0 kips respectively.
 All steel for Beam Seat Extensions shall be AASHTO M270 Grade 50.
 Cost of furnishing and installing Anchor Bolts is included in Furnishing and Erecting Structural Steel.

BILL OF MATERIAL

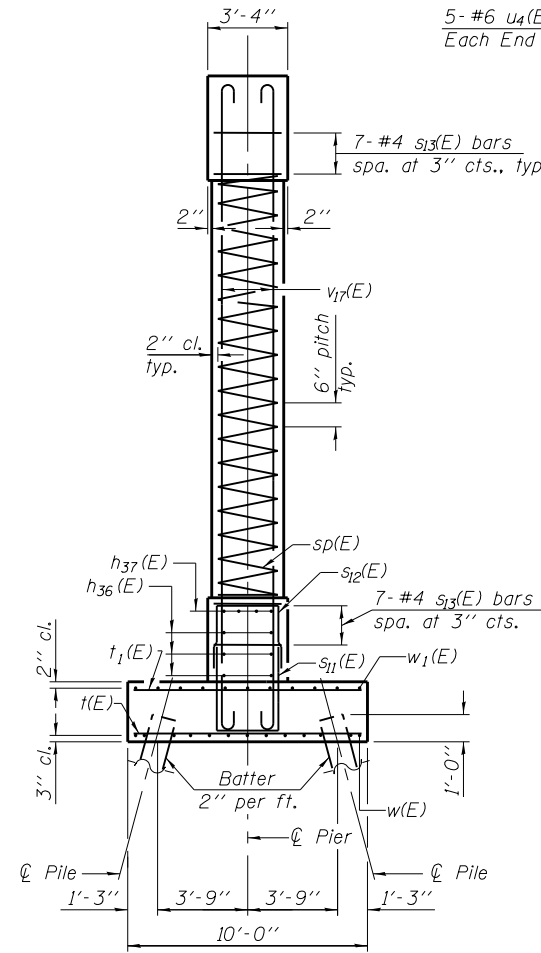
Bar	No.	Size	Length	Shape
s ₅ (E)	9	#5	4'-8"	U
s ₆ (E)	1	#5	4'-3"	U
s ₇ (E)	1	#5	3'-11"	U
s ₈ (E)	1	#5	3'-4"	U
s ₉ (E)	1	#5	2'-9"	U
s ₁₀ (E)	5	#5	5'-0"	U
u ₂ (E)	2	#5	13'-5"	D
u ₃ (E)	2	#5	15'-1"	□
v ₆ (E)	26	#5	2'-2"	Γ
Concrete Structures		Cu. Yd.		1.0
Reinforcement bars, Epoxy Coated		Pound		150
Structural Repair of Concrete (Depth Equal to or Less Than 5')		Sq. Ft.		203
Structural Repair of Concrete (Depth Greater Than 5')		Sq. Ft.		45

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet 124 of 143.

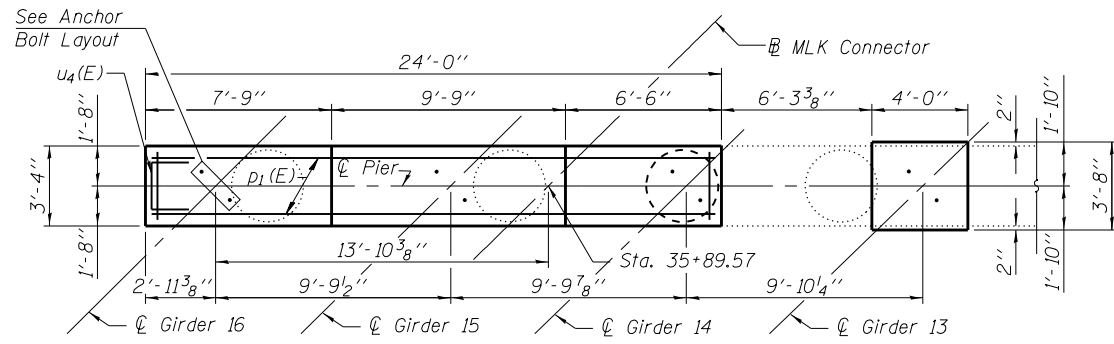


Girder	C	D
13	7 ⁵ / ₈ "	7 ⁵ / ₈ "
14	7 ⁷ / ₈ "	7 ¹¹ / ₁₆ "
15	7 ¹³ / ₁₆ "	7 ³ / ₄ "
16	7 ¹³ / ₁₆ "	7 ³ / ₄ "

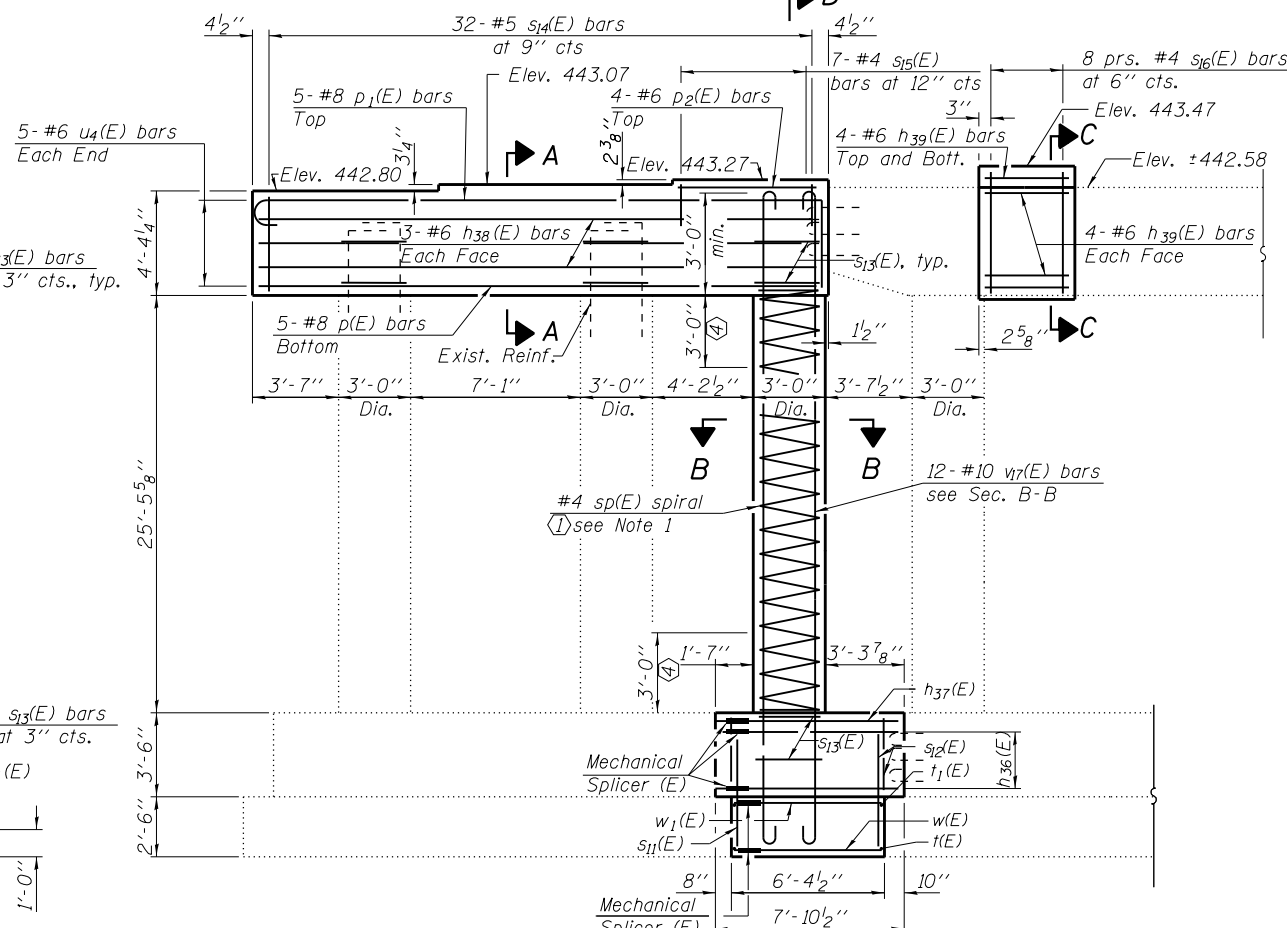
ANCHOR BOLT LAYOUT



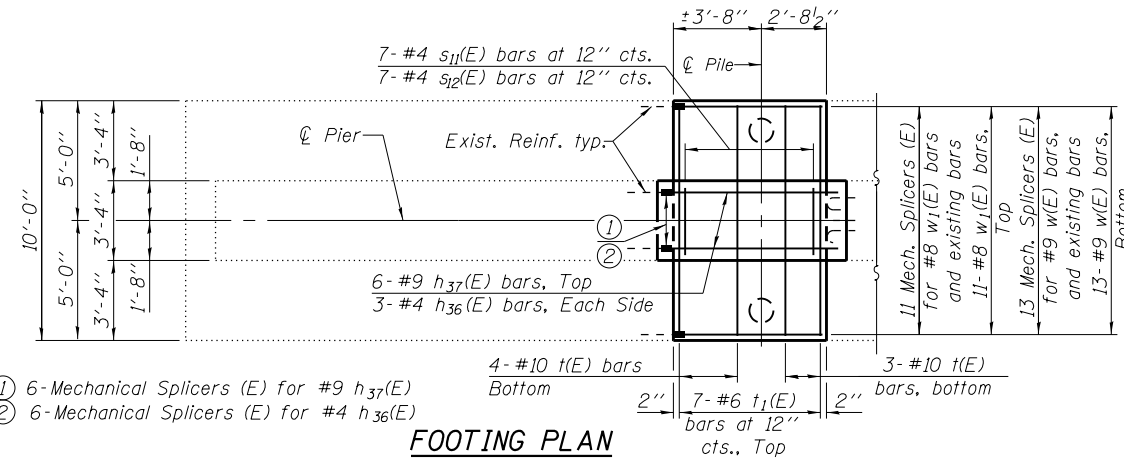
SECTION D-D



TOP PLAN

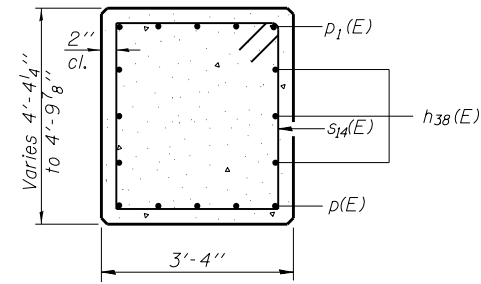


ELEVATION
(Looking North)

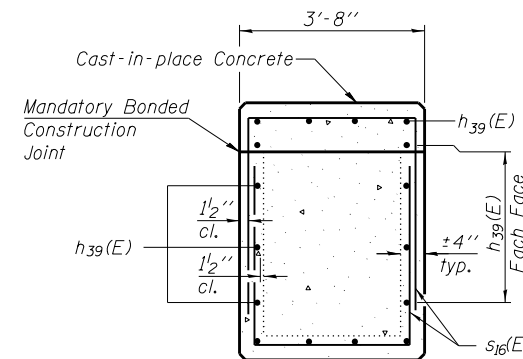


FOOTING PLAN

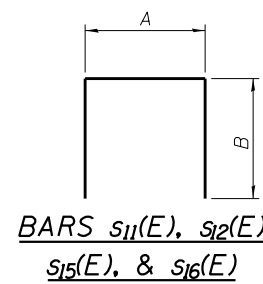
- ① 6-Mechanical Splicers (E) for #9 h₃₇(E)
- ② 6-Mechanical Splicers (E) for #4 h₃₆(E)



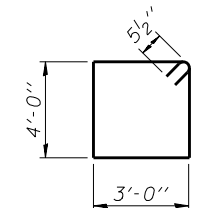
SECTION A-A



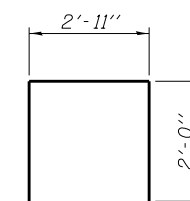
SECTION C-C



BARS s₁₁(E), s₁₂(E), s₁₅(E), & s₁₆(E)



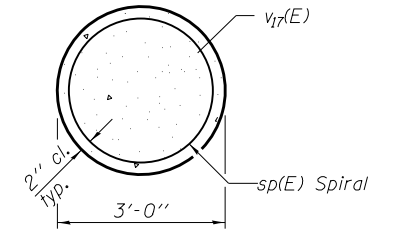
BAR s₁₄(E)



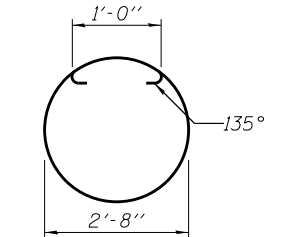
Bar u₄(E)

PILE DATA

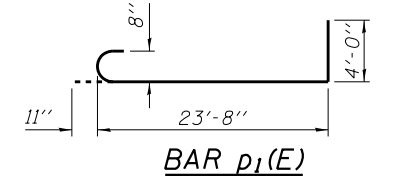
Type: Metal Shell - 14" ϕ x 0.250" wall
 Nominal Required Bearing: 317 kips
 Allowable Resistance Available: 106 kips
 Est. Length: 33 feet
 No. Production Piles: 2
 No. Test Piles: 0



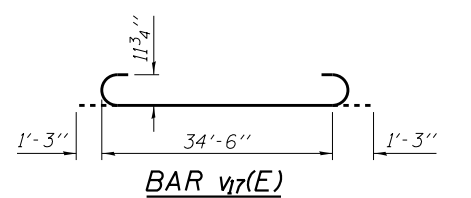
SECTION B-B



BAR s₁₃(E)



BAR p₁(E)

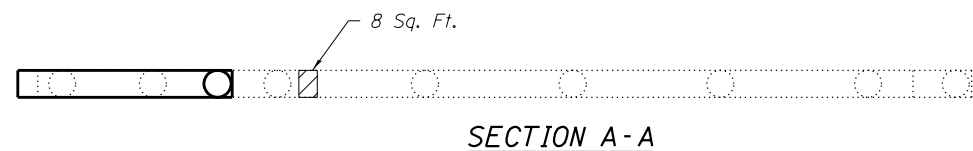
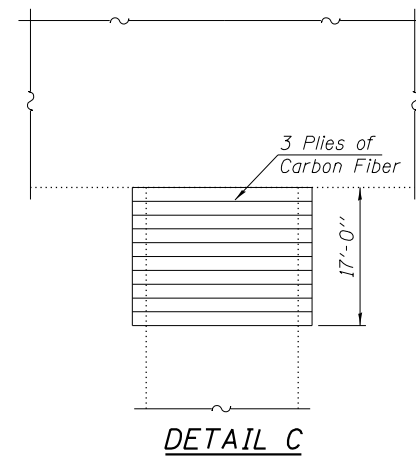
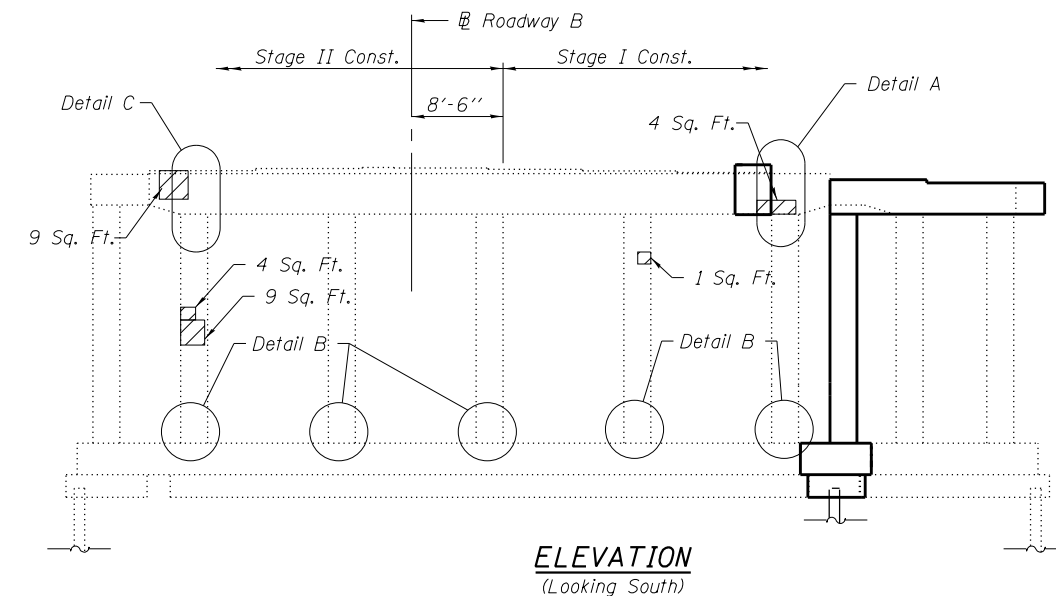
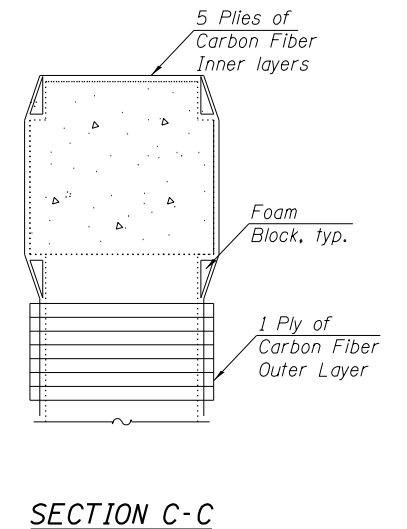
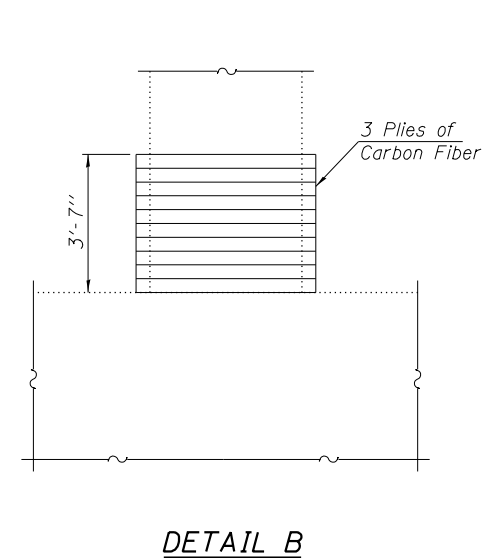
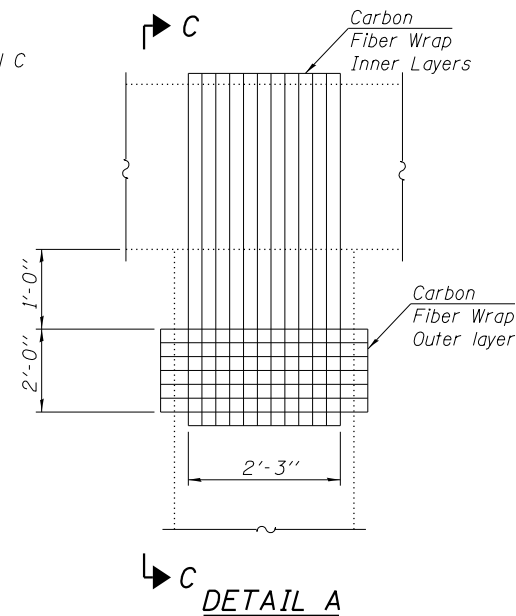
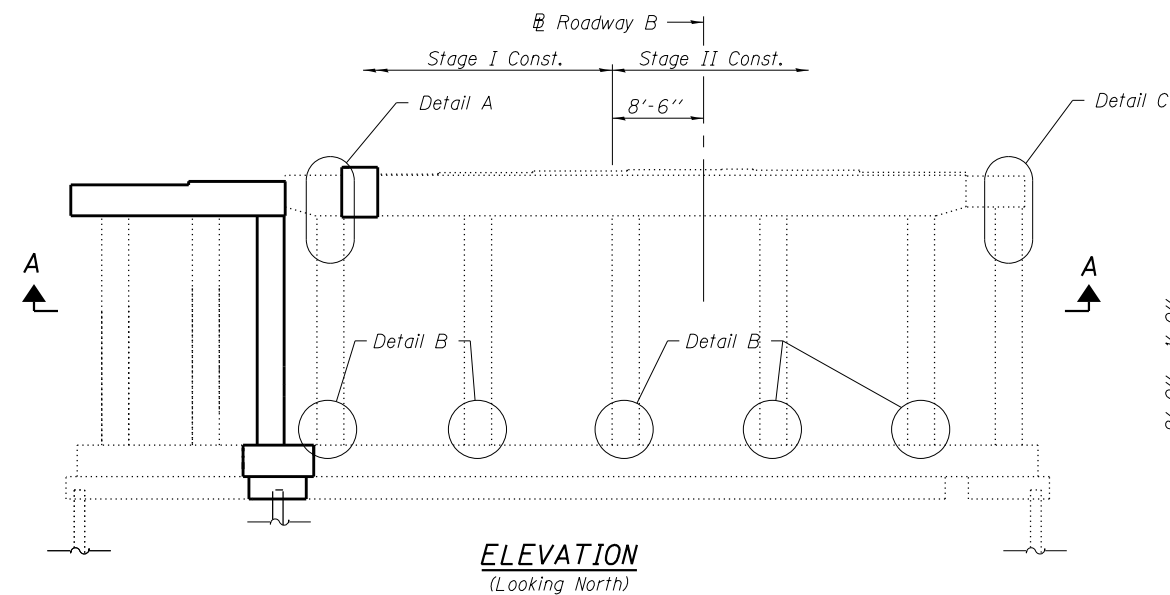


BAR v₁₇(E)

A & B DIMENSIONS

Bar	A	B
s ₁₁ (E)	3'-0"	5'-4"
s ₁₂ (E)	3'-0"	3'-0"
s ₁₅ (E)	3'-0"	1'-0"
s ₁₆ (E)	3'-5"	4'-0"

Note:
 For Note 1 thru Note 4 and ① thru ④, see sheet 104 of 143.



LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 inches)
- Structural Repair of Concrete (Depth Greater Than 5 inches)
- Epoxy Crack Injection

- Note 1:
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap and crashwall. Provide 4-#4 spacers or equivalent.
- Note 2:
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Provide 4-#4 spacers or equivalent.
- Note 3:
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap. Provide 4-#4 spacers or equivalent.
- Note 4:
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into crashwall. Provide 4-#4 spacers or equivalent.

- ① Allowable substitution:
Provide 1/2 extra turns top and bottom with 135° standard hook into core at each end of spiral.
- ② Allowable substitution:
Provide 1/2 extra turns top with 135° standard hook into core at each end of spiral.
- ③ Allowable substitution:
Provide 1/2 extra turns bottom with 135° standard hook into core at each end of spiral.
- ④ Splicing of bars will not be allowed in this region.

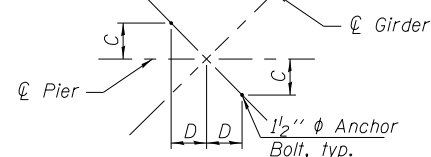
Notes:
When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1/2 turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall terminate with a 135° standard hook.
Existing reinforcement shall be cleaned and incorporated into new construction. Cost included in concrete removal. Cut ends of existing reinforcement extending into new construction to maintain 1/2" minimum clearance.
For substructure removal details, see sheet 18 of 143.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₃₆ (E)	6	#4	7'-7"	—
h ₃₇ (E)	6	#9	7'-7"	—
h ₃₈ (E)	6	#6	23'-8"	—
h ₃₉ (E)	16	#6	3'-8"	—
p(E)	5	#8	23'-8"	—
p ₁ (E)	5	#6	28'-7"	⌋
p ₂ (E)	4	#6	6'-2"	—
s ₁₁ (E)	7	#4	13'-8"	⌋
s ₁₂ (E)	7	#4	9'-0"	⌋
s ₁₃ (E)	28	#4	10'-2"	⊙
s ₁₄ (E)	32	#5	14'-11"	⊠
s ₁₅ (E)	7	#4	5'-0"	⌋
s ₁₆ (E)	16	#4	11'-5"	⌋
** sp(E)	1	#4	25'-10"	⌋
t(E)	7	#10	9'-8"	—
t ₁ (E)	7	#6	9'-8"	—
u ₄ (E)	5	#6	6'-11"	⌋
v ₁₇ (E)	12	#10	37'-4"	⌋
w(E)	13	#9	6'-0"	—
w ₁ (E)	11	#8	6'-0"	—
Concrete Removal		Cu. Yd.	14.5	
Structure Excavation		Cu. Yd.	23	
Concrete Structures		Cu. Yd.	32.3	
Reinforcement Bars, Epoxy Coated		Pound	5,020	
Furnishing Metal Shell Piles 14" x 0.250"		Foot	66	
Driving Piles		Foot	66	
Mechanical Splicers		Each	36	
Acrylic Coating		Sq. Yd.	42	
Fiber Wrap		Sq. Ft.	380	
Structural Repair of Concrete (Depth Equal to or Less Than 5")		Sq. Ft.	35	

** Length is height of spiral.

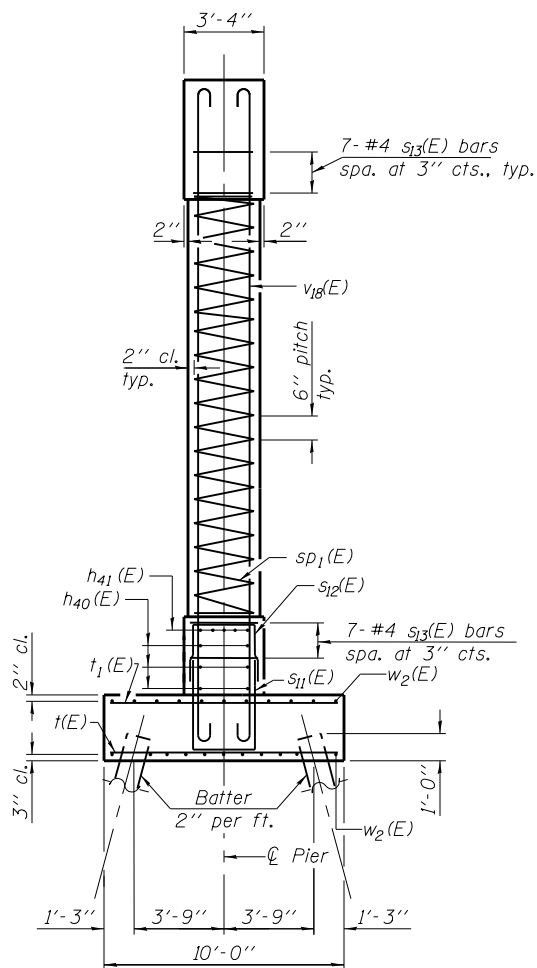
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet 124 of 143.



ANCHOR BOLT LAYOUT

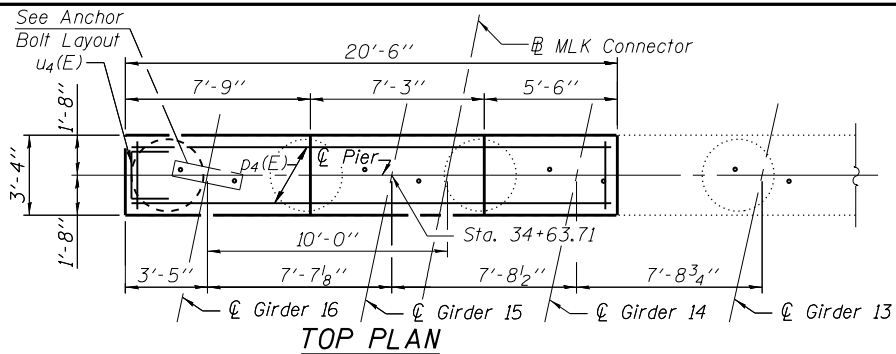
TABLE OF VARIABLE DIMENSIONS

Girder	C	D
13	3"	1'-1 1/2"
14	2 15/16"	1'-1 1/2"
15	2 7/8"	1'-1 1/2"
16	2 13/16"	1'-1 1/2"

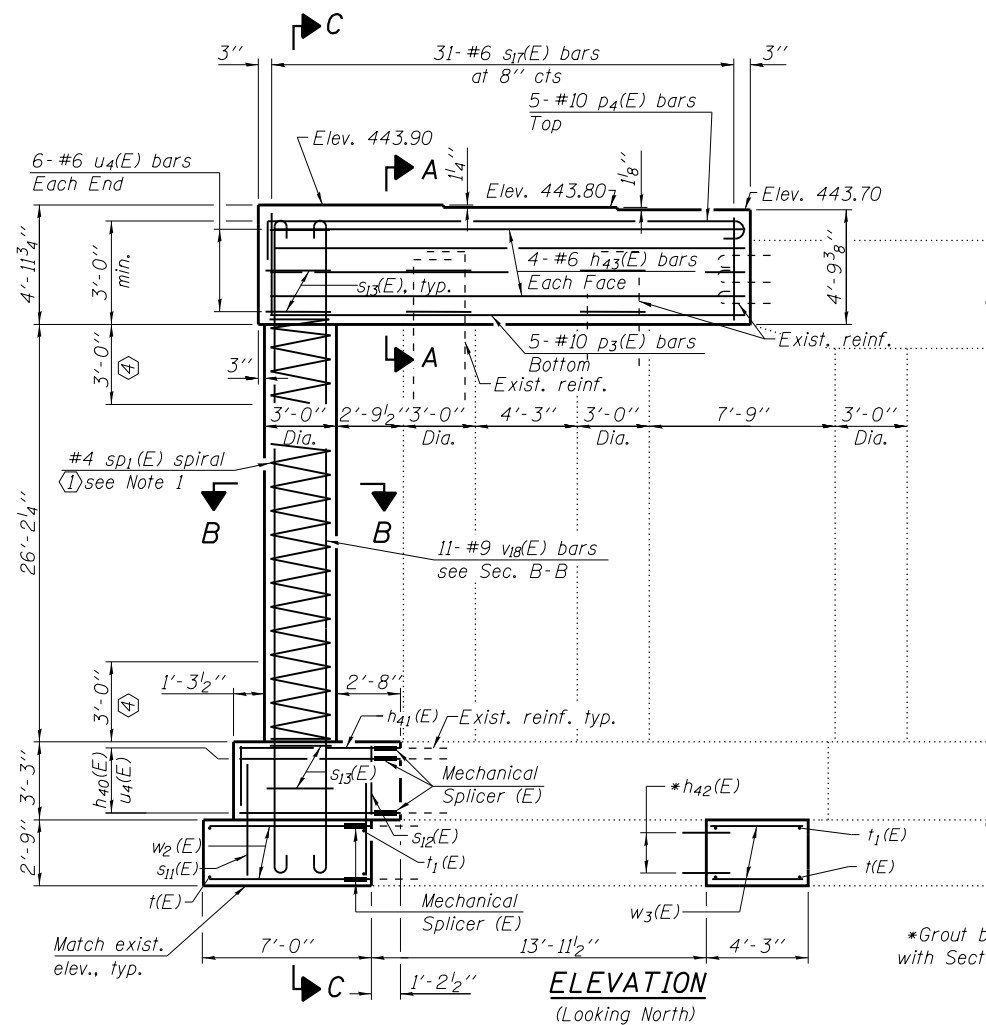


SECTION C-C

- ① 5-Mechanical Splicers (E) for #9 h41(E)
- ② 6-Mechanical Splicers (E) for #4 h40(E)
- ③ 4-#10-t(E) bars, Bottom

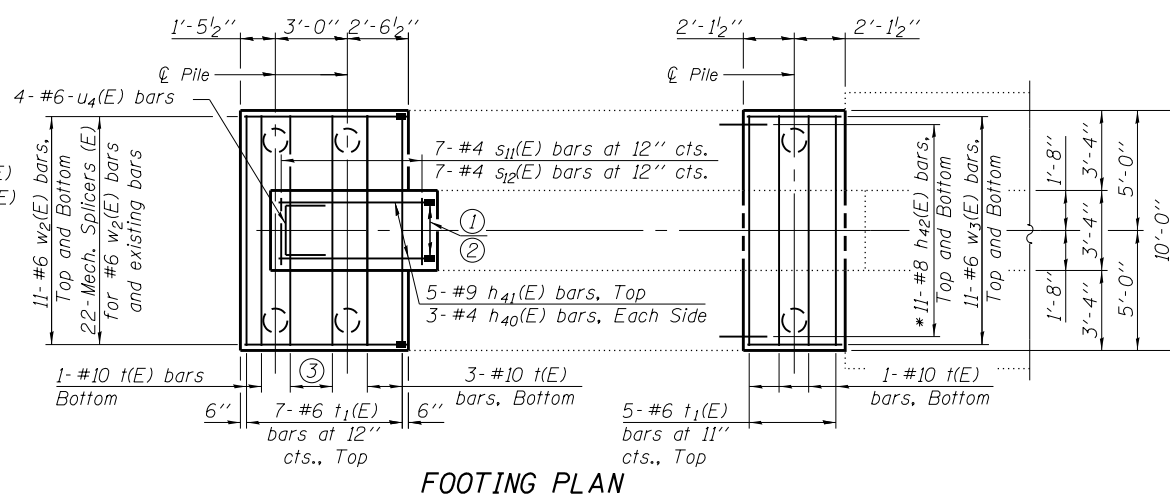


TOP PLAN

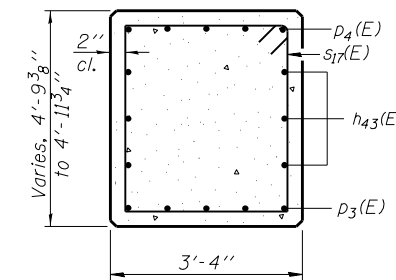


ELEVATION
(Looking North)

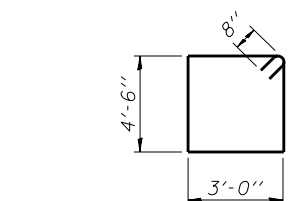
*Grout bars 1'-0" into existing concrete in accordance with Section 584 of the Standard Specification.



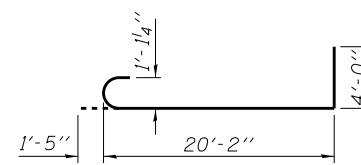
FOOTING PLAN



SECTION A-A



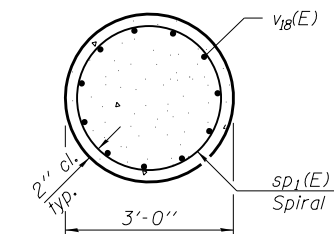
BAR s17(E)



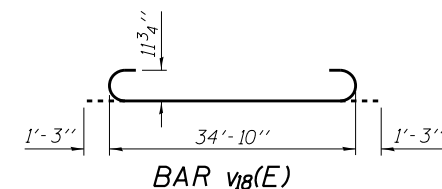
BAR p4(E)

PILE DATA

Type: Metal Shell - 14" ϕ x 0.250" wall
 Nominal Required Bearing: 354 kips
 Allowable Resistance Available: 118 kips
 Est. Length: 31 feet
 No. Production Piles: 5
 No. Test Piles: 1

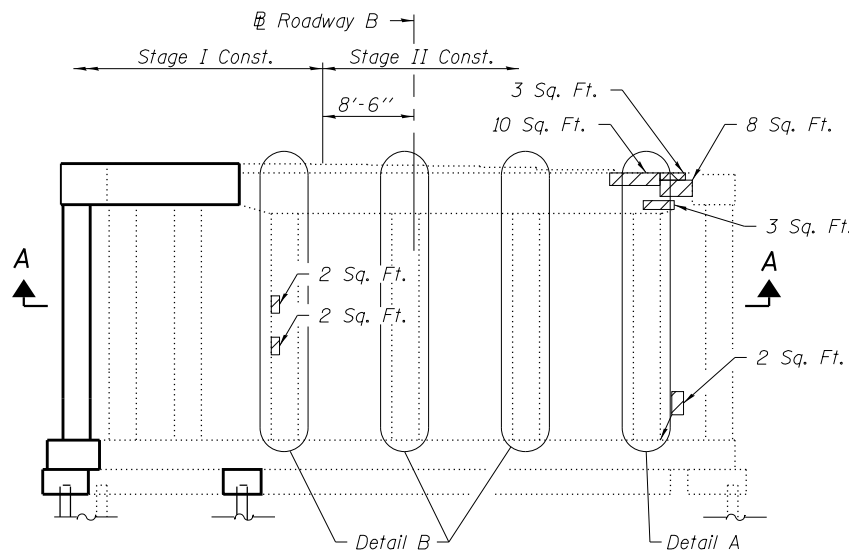


SECTION B-B

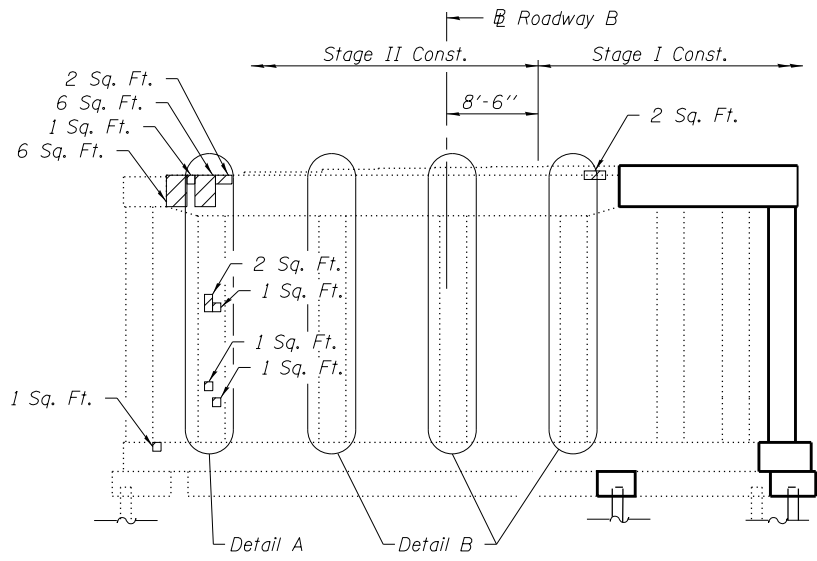


BAR v18(E)

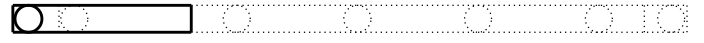
Notes:
 For Note 1 thru Note 4 and ① thru ④, see sheet 106 of 143.
 For s11(E) thru s13(E) and u4(E) bar bending diagrams see sheet 103 of 143.



ELEVATION
(Looking North)



ELEVATION
(Looking South)

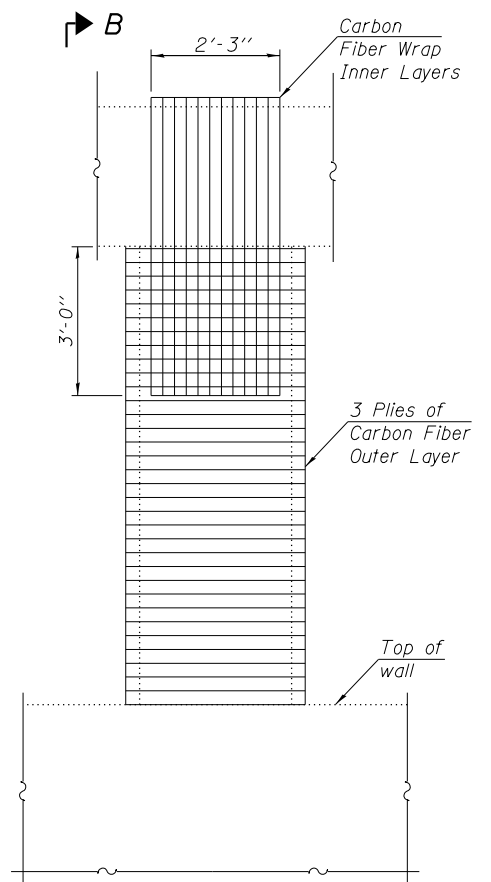


SECTION A-A

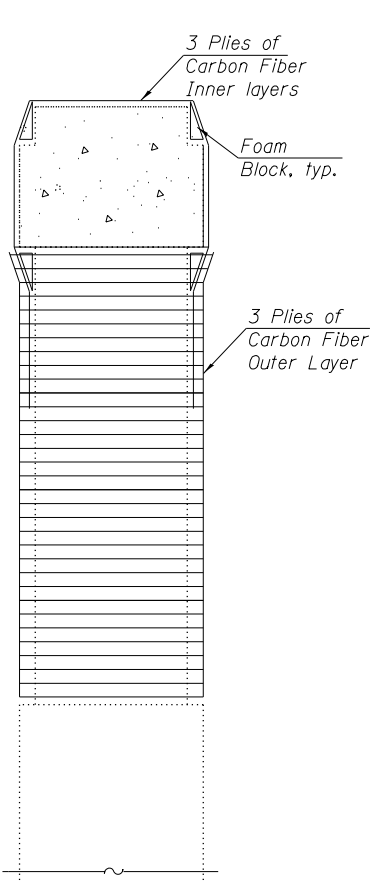
LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 inches)
- Structural Repair of Concrete (Depth Greater Than 5 inches)
- Epoxy Crack Injection

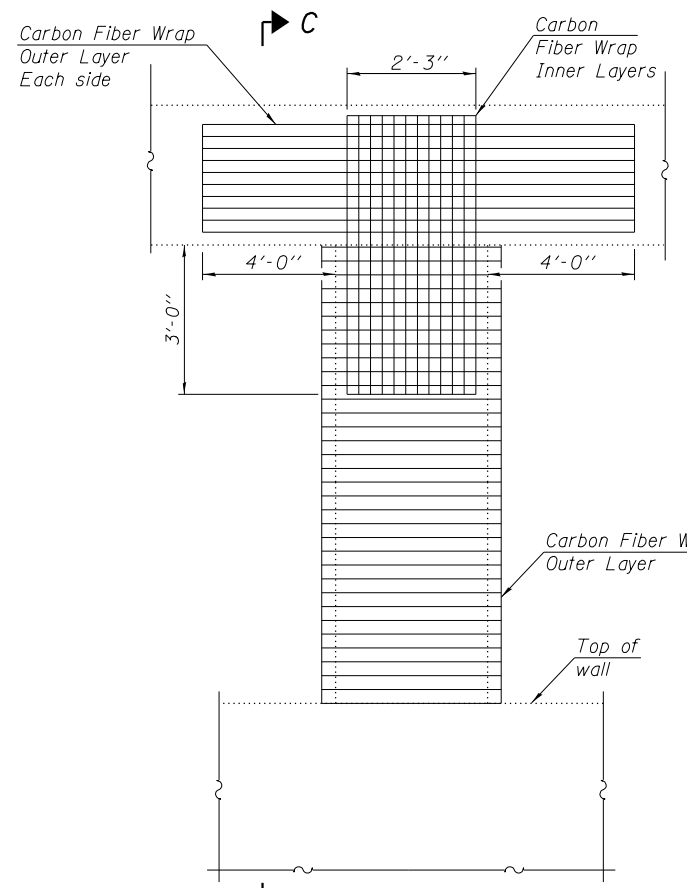
Notes:
 When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1/2 turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall terminate with a 135° standard hook.
 Existing reinforcement shall be cleaned and incorporated into new construction. Cost included in concrete removal.
 Cut ends of existing reinforcement extending into new construction to maintain 1/2" minimum clearance.
 For Substructure removal details, see sheet 18 of 143.



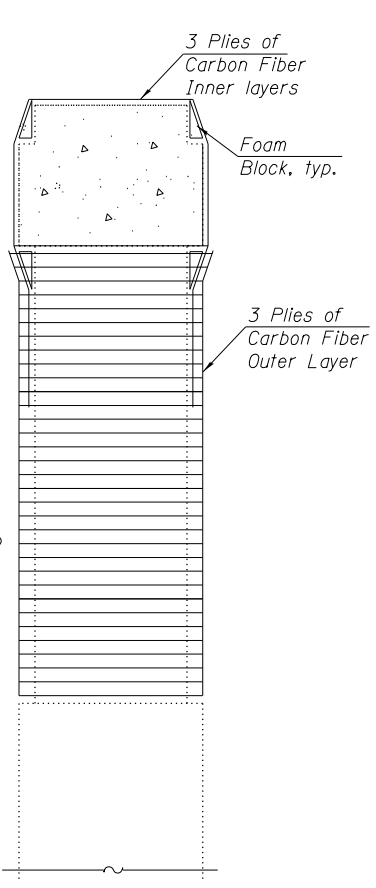
DETAIL A



SECTION B-B



DETAIL B



SECTION C-C

- Note 1:**
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap and crashwall. Provide 4-#4 spacers or equivalent.
- Note 2:**
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Provide 4-#4 spacers or equivalent.
- Note 3:**
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap. Provide 4-#4 spacers or equivalent.
- Note 4:**
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into crashwall. Provide 4-#4 spacers or equivalent.
- ① Allowable substitution: Provide 1/2 extra turns top and bottom with 135° standard hook into core at each end of spiral.
 - ② Allowable substitution: Provide 1/2 extra turns top with 135° standard hook into core at each end of spiral.
 - ③ Allowable substitution: Provide 1/2 extra turns bottom with 135° standard hook into core at each end of spiral.
 - ④ Splicing of bars will not be allowed in this region.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h40(E)	6	#4	6'-7"	—
h41(E)	5	#9	6'-7"	—
h42(E)	22	#8	2'-0"	—
h43(E)	8	#6	20'-2"	—
p3(E)	5	#10	20'-2"	—
p4(E)	5	#10	25'-7"	C
s11(E)	7	#4	13'-8"	U
s12(E)	7	#4	9'-0"	U
s13(E)	28	#4	10'-2"	O
s17(E)	31	#6	16'-4"	B
sp1(E)	1	#4	26'-6"	W
t(E)	13	#10	9'-8"	—
t1(E)	12	#6	9'-8"	—
u4(E)	10	#6	6'-11"	U
v18(E)	11	#9	37'-5"	C
w2(E)	22	#6	6'-8"	—
w3(E)	22	#6	3'-11"	—
Concrete Removal			Cu. Yd.	9.7
Structure Excavation			Cu. Yd.	40
Concrete Structures			Cu. Yd.	33.5
Reinforcement Bars, Epoxy Coated			Pound	5,270
Furnishing Metal Shell Piles 14" x 0.250"			Foot	155
Driving Piles			Foot	155
Test Pile Metal Shells			Each	1
Mechanical Splicers			Each	33
Acrylic Coating			Sq. Yd.	142
Fiber Wrap			Sq. Ft.	1,277
Structural Repair of Concrete (Depth Equal to or Less Than 5")			Sq. Ft.	50

** Length is height of spiral.

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USER NAME = elagemann	CHECKED - M.A. Chorkey	REVISED
PLOT SCALE =	DRAWN - J.N. Bailey	REVISED
PLOT DATE = 8/7/2014	CHECKED - T.S. Friederich	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 5B REPAIR DETAILS
STRUCTURE NO. 082-0010**

SHEET NO. 106 OF 143 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	82-(1,4)B-1	ST. CLAIR	406	298
CONTRACT NO. 76009				

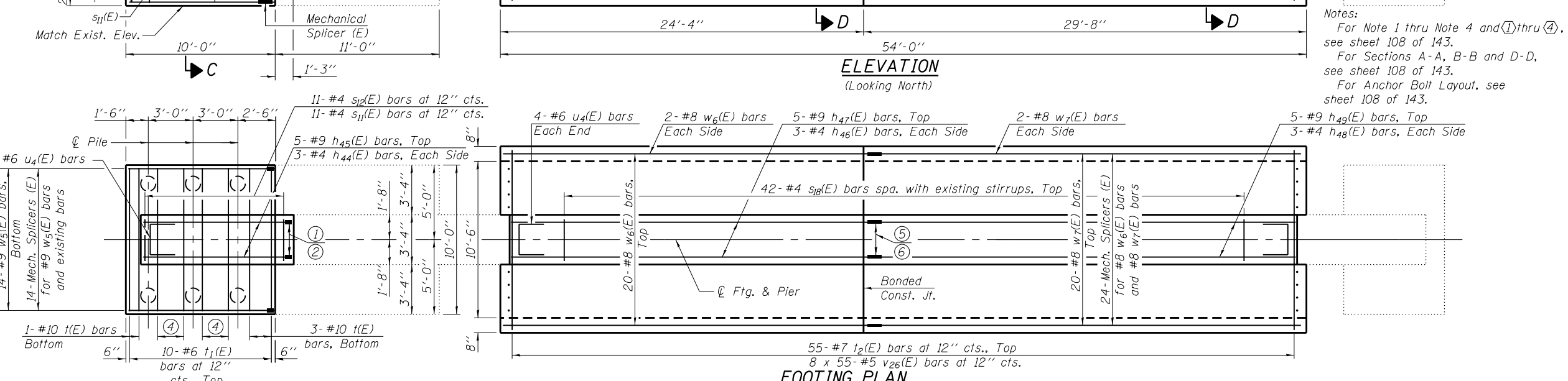
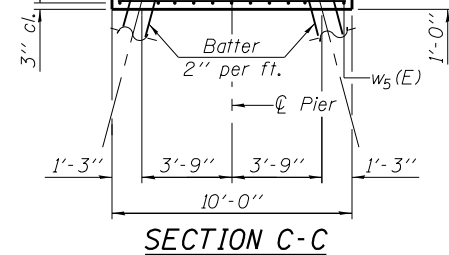
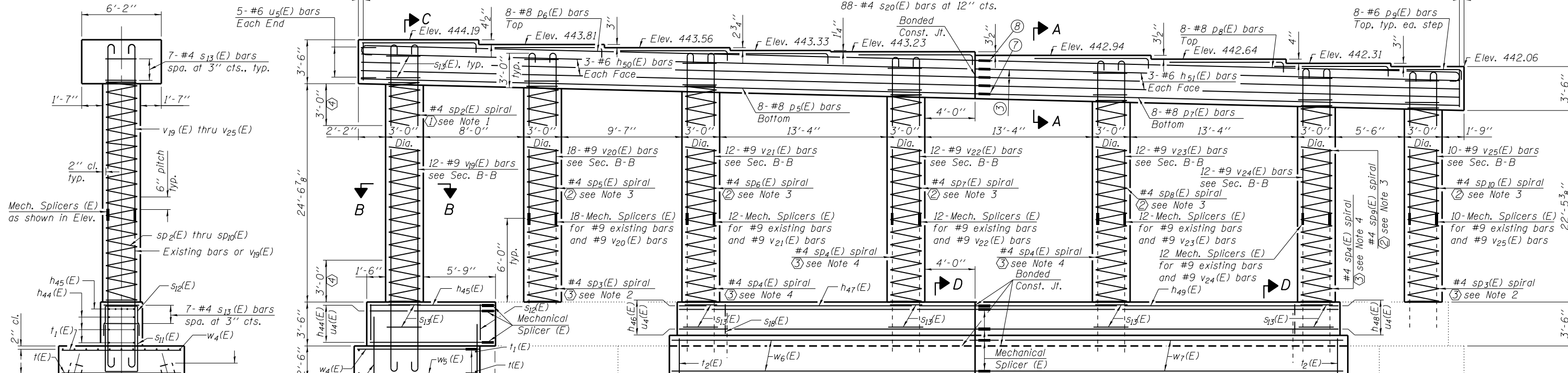
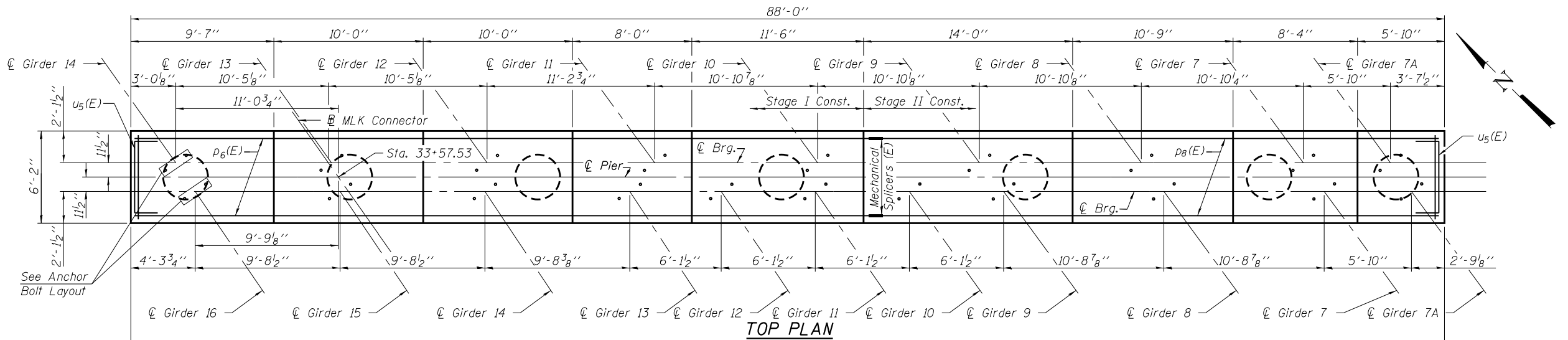
ILLINOIS FED. AID PROJECT



PILE DATA

Type: Metal Shell - 14" ϕ x 0.250" wall
 Nominal Required Bearing: 373 kips
 Allowable Resistance Available: 124 kips
 Est. Length: 34 feet
 No. Production Piles: 6
 No. Test Piles: 0

- ① 5-Mechanical Splicers (E) for #9 $h_{45}(E)$ and existing bars
- ② 6-Mechanical Splicers (E) for #4 $h_{44}(E)$ and existing bars
- ③ 6-Mechanical Splicers (E) for #6 $h_{50}(E)$ and $h_{51}(E)$ bars
- ④ 4-#10 $t(E)$ bars, Bottom
- ⑤ 5-Mechanical Splicers (E) for #9 $h_{47}(E)$ and $h_{49}(E)$ bars
- ⑥ 6-Mechanical Splicers (E) for #4 $h_{46}(E)$ and $h_{48}(E)$ bars
- ⑦ 8-Mechanical Splicers (E) for #8 $p_5(E)$ and $p_7(E)$ bars
- ⑧ 8-Mechanical Splicers (E) for #8 $p_6(E)$ and $p_8(E)$ bars



FILE NAME = X:\1389400-MLK\CAD\S\108200\10-76009.dgn
 USER NAME = elagemann
 PLOT SCALE =
 PLOT DATE = 8/7/2014

DESIGNED - J.J. Derner
 CHECKED - M.A. Chorkey
 DRAWN - J.J. Derner
 CHECKED - E.M. Lagemann

REVISED
 REVISED
 REVISED
 REVISED

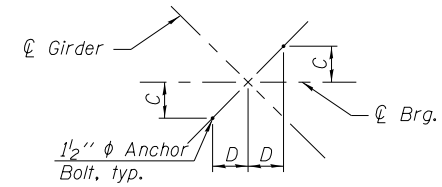
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 6B
 STRUCTURE NO. 082-0010

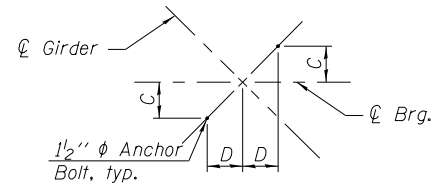
SHEET NO. 107 OF 143 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	82-1,41B-1	ST. CLAIR	406	299

CONTRACT NO. 76C09
 ILLINOIS FED. AID PROJECT



ANCHOR BOLT LAYOUT - UNIT 2



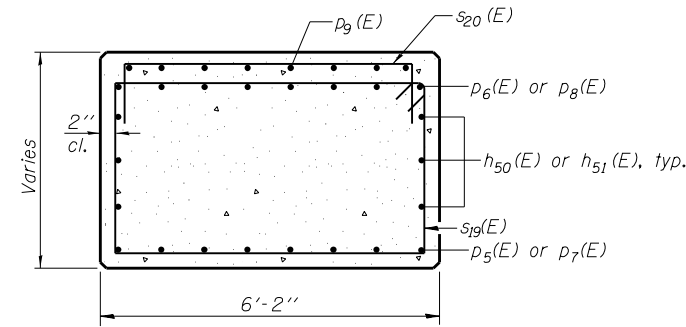
ANCHOR BOLT LAYOUT - UNIT 3

TABLE OF VARIABLE DIMENSIONS

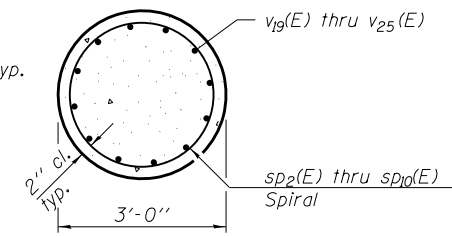
Girder	C	D
7A	6 1/2"	8 3/4"
7	6 1/2"	8 3/4"
8	6 1/2"	8 3/4"
9	6 1/2"	8 3/4"
10	6 3/8"	8 7/8"
11	6 1/4"	9"
12	6 1/8"	9"
13	6"	9 1/8"
14	6"	9"
15	6 1/8"	9"
16	6 1/8"	9"

TABLE OF VARIABLE DIMENSIONS

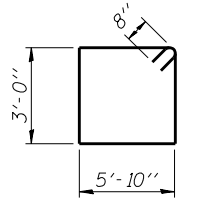
Girder	C	D
7A	6 3/8"	8 3/4"
7	6 3/8"	8 3/4"
8	6 3/8"	8 3/4"
9	6 3/8"	8 3/4"
10	6 3/8"	8 3/4"
11	6 3/8"	8 3/4"
12	6 1/4"	8 7/8"
13	6 1/4"	8 7/8"
14	6 1/4"	8 7/8"



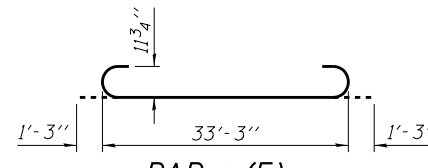
SECTION A-A



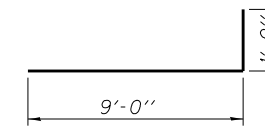
SECTION B-B



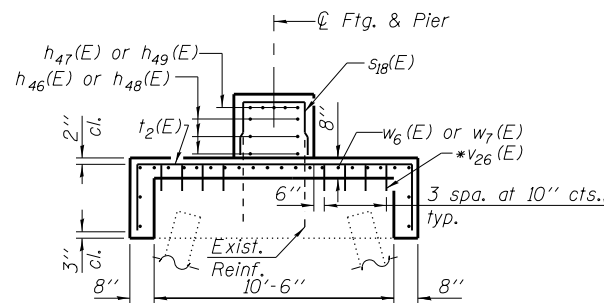
BAR s19(E)



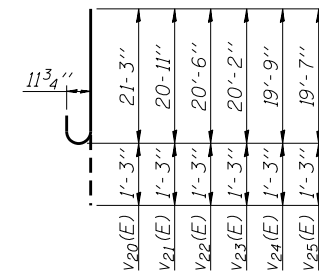
BAR v19(E)



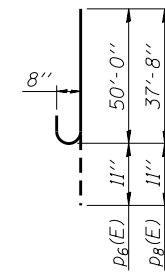
BAR p9(E)



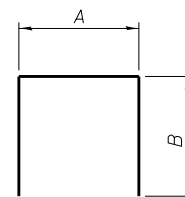
SECTION D-D



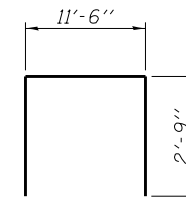
BARS v20(E), v21(E), v22(E), v23(E), v24(E), & v25(E)



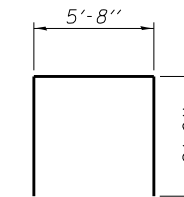
BARS p6(E) & p8(E)



BARS s18(E) & s20(E)



BAR t2(E)



BAR u5(E)

A & B DIMENSIONS

Bar	A	B
s18(E)	3'-0"	2'-7"
s20(E)	5'-10"	1'-0"

- Note 1:
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap and crashwall. Provide 4-#4 spacers or equivalent.
- Note 2:
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Provide 4-#4 spacers or equivalent.
- Note 3:
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap. Provide 4-#4 spacers or equivalent.
- Note 4:
Provide 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into crashwall. Provide 4-#4 spacers or equivalent.

* Drill and epoxy grout reinforcement 6" into existing concrete in accordance with Section 584 of the Standard Specification.

- Notes:
When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1/2 turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall terminate with a 135° standard hook.
Existing reinforcement shall be cleaned and incorporated into new construction. Cost included in Concrete Removal. Cut ends of existing reinforcement extending into new construction to maintain 1/2" minimum clearance.
For substructure removal details, see sheet 18 of 143.

- ① Allowable substitution:
Provide 1/2 extra turns top and bottom with 135° standard hook into core at each end of spiral.
② Allowable substitution:
Provide 1/2 extra turns top with 135° standard hook into core at each end of spiral.
③ Allowable substitution:
Provide 1/2 extra turns bottom with 135° standard hook into core at each end of spiral.
④ Splicing of bars will not be allowed in this region.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h44(E)	6	#4	9'-3"	—
h45(E)	5	#9	9'-3"	—
h46(E)	6	#4	25'-2"	—
h47(E)	5	#9	25'-2"	—
h48(E)	6	#4	28'-6"	—
h49(E)	5	#9	28'-6"	—
h50(E)	6	#6	50'-0"	—
h51(E)	6	#6	37'-8"	—
p5(E)	8	#8	50'-0"	—
p6(E)	8	#8	50'-11"	C
p7(E)	8	#8	37'-8"	—
p8(E)	8	#8	38'-7"	C
p9(E)	72	#6	10'-0"	L
s11(E)	11	#4	13'-8"	U
s12(E)	11	#4	9'-0"	U
s13(E)	84	#4	10'-2"	O
s18(E)	42	#4	8'-2"	U
s19(E)	117	#6	19'-0"	B
s20(E)	88	#4	7'-10"	U
sp2(E)	1	#4	24'-11"	W
sp3(E)	2	#4	6'-0"	W
sp4(E)	4	#4	6'-2"	W
sp5(E)	1	#4	18'-5"	W
sp6(E)	1	#4	18'-1"	W
sp7(E)	1	#4	17'-8"	W
sp8(E)	1	#4	17'-4"	W
sp9(E)	1	#4	16'-11"	W
sp10(E)	1	#4	16'-9"	W
t(E)	13	#10	9'-8"	—
t1(E)	10	#6	9'-8"	—
t2(E)	55	#7	17'-0"	U
u4(E)	12	#6	6'-11"	U
u5(E)	10	#6	9'-8"	U
v19(E)	12	#9	35'-9"	C
v20(E)	18	#9	22'-6"	C
v21(E)	12	#9	22'-2"	C
v22(E)	12	#9	21'-9"	C
v23(E)	12	#9	21'-5"	C
v24(E)	12	#9	21'-0"	C
v25(E)	10	#9	20'-10"	C
v26(E)	440	#5	1'-0"	—
w4(E)	10	#6	9'-8"	—
w5(E)	14	#9	9'-8"	—
w6(E)	24	#8	25'-2"	—
w7(E)	24	#8	28'-6"	—
Concrete Removal		Cu. Yd.	95.0	
Structure Excavation		Cu. Yd.	83	
Concrete Structures		Cu. Yd.	172.3	
Reinforcement Bars, Epoxy Coated		Pound	27,330	
Furnishing Metal Shell Piles 14" x 0.250"		Foot	210	
Driving Piles		Foot	210	
Concrete Sealer		Sq. Ft.	3,894	
Mechanical Splicers		Each	168	

- ** Length is height of spiral.
- Notes:
Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap. For details of piles, see sheet 124 of 143. For Mechanical Splicer details, see sheet 125 of 143. For s11(E), s12(E) and u4(E) bending diagrams, see sheet 103 of 143.