A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: April 25, 2017
Date of Addendum: April 20, 2017

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
001	82-0741-197	BRIDGE – STEEL GIRDER	SCOTT	IM-NHS-074-1(197)5--03-82	25APR001A07

Make the following changes to the PLAN:

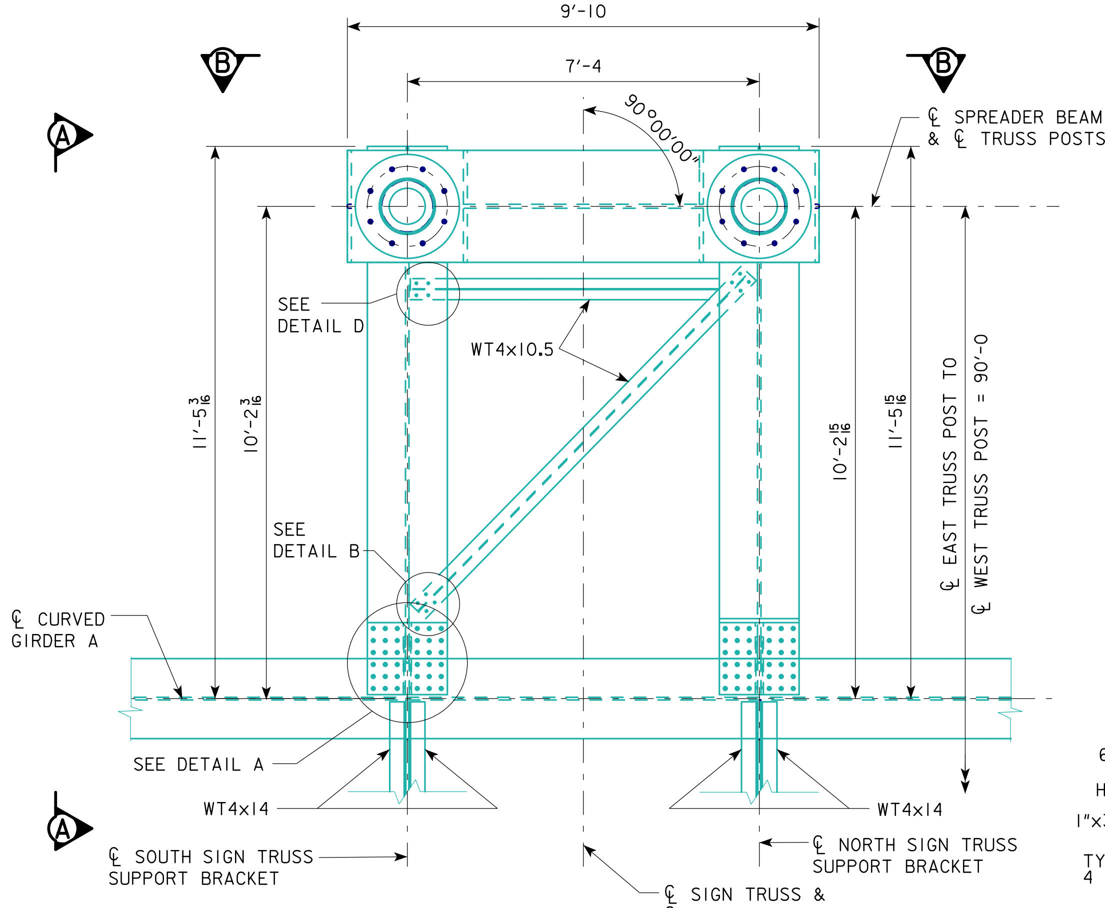
Replace SHEETS 198, 200, 459, 461, 501, 512, 514 and 807 with attached SHEETS 198, 200, 459, 461, 501, 512, 514 and 807.

Note: Sheets 198, 200, 459, 461, 512 & 514:
Deleted note: “Seal with light gray non-sag urethane caulk after galvanizing" from Section E-E.

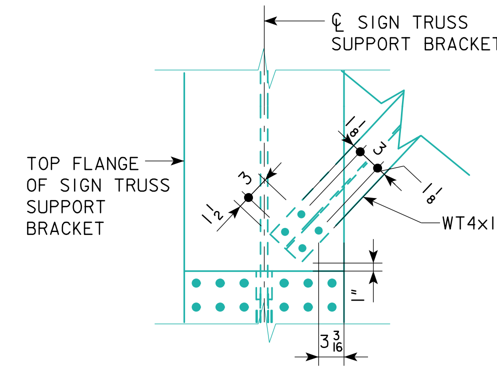
Sheets 200 & 514:
Added note: HSS 14.000x0.625 shall meet the requirements of ASTM A500, Grade B.

Sheet 461:
Added note: HSS 16.000x0.625 shall meet the requirements of ASTM A500, Grade B.

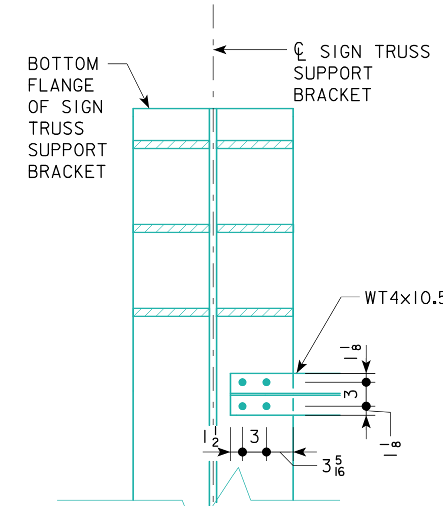
Sheets 501 & 807:
Deleted callouts for “Type 2 Intermediate Cross Frame” & “Type 3 Intermediate Cross Frame” from framing plans.


9'-10
7'-4
90°00'00"
℄ SPREADER BEAM & ℄ TRUSS POSTS
SEE DETAIL D
WT4x10.5
SEE DETAIL B
℄ CURVED GIRDER A
SEE DETAIL A
WT4x14
℄ SOUTH SIGN TRUSS SUPPORT BRACKET
℄ NORTH SIGN TRUSS SUPPORT BRACKET
℄ SIGN TRUSS & ℄ BETWEEN SIGN TRUSS SUPPORT BRACKETS
℄ EAST TRUSS POST TO ℄ WEST TRUSS POST = 90'-0

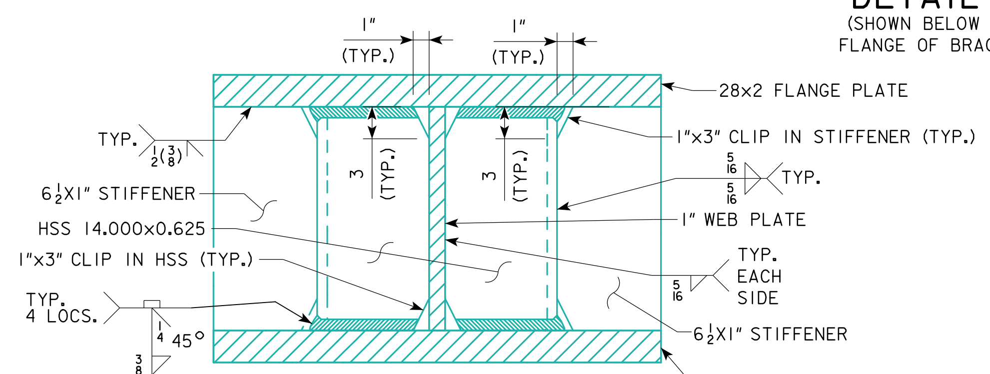
PLAN



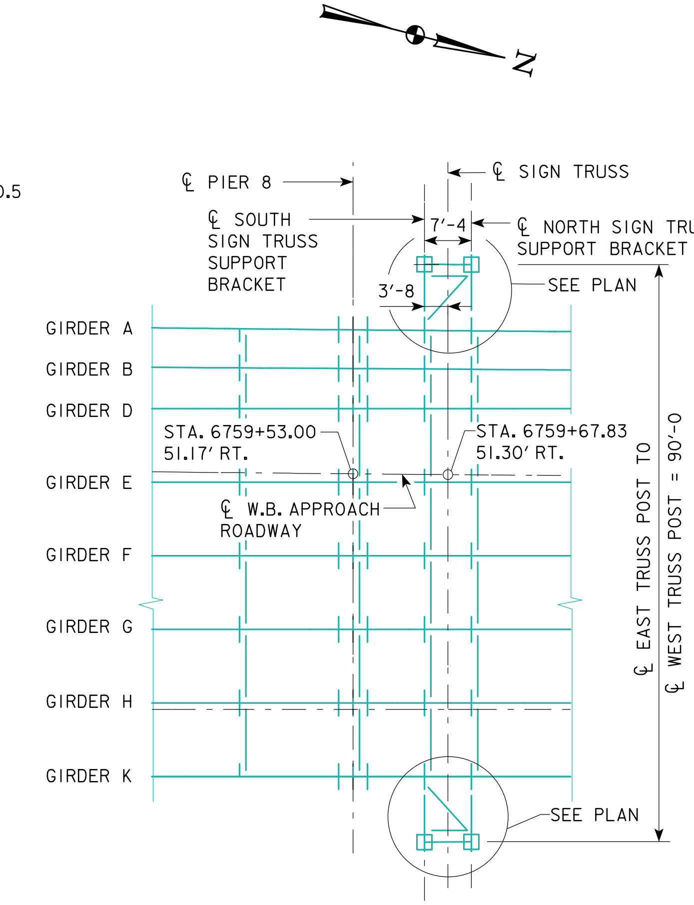
DETAIL B



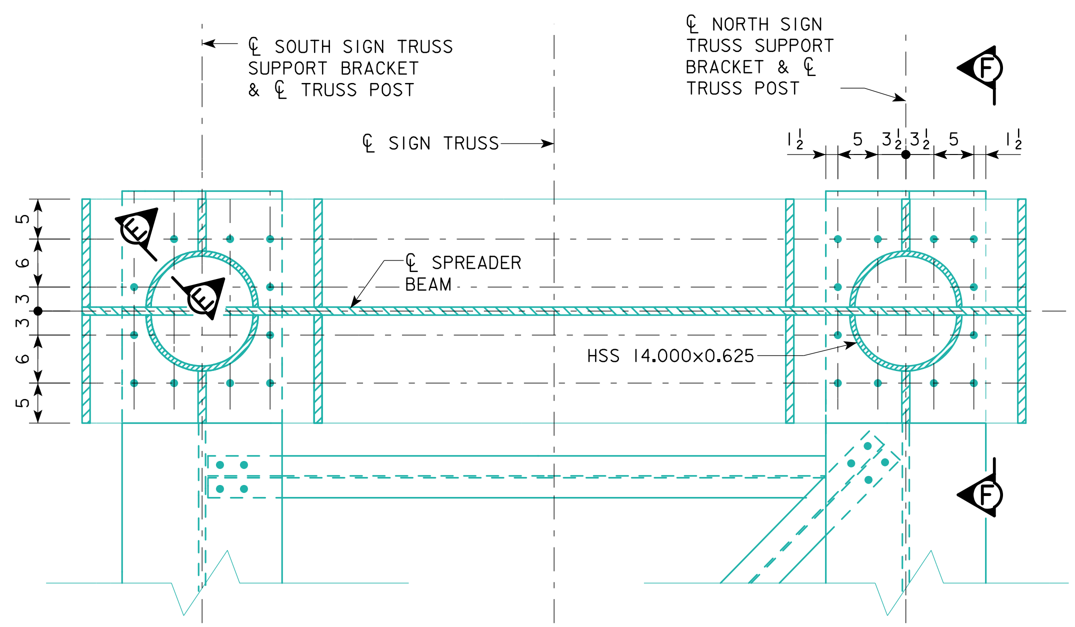
DETAIL D
(SHOWN BELOW TOP FLANGE OF BRACKET)



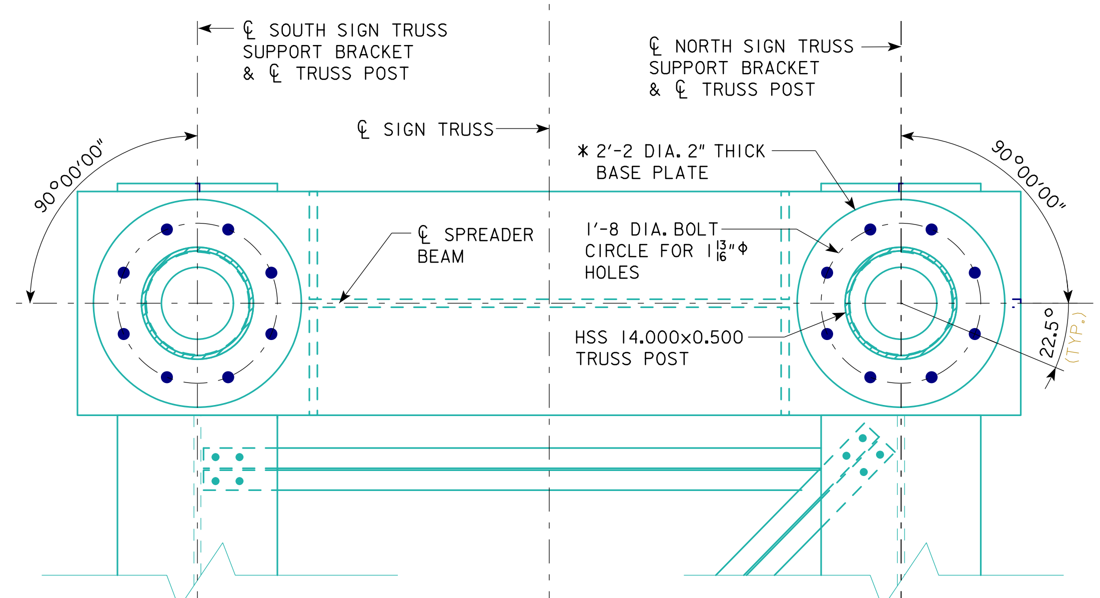
SECTION F-F


℄ PIER 8
℄ SIGN TRUSS
℄ SOUTH SIGN TRUSS SUPPORT BRACKET
℄ NORTH SIGN TRUSS SUPPORT BRACKET
7'-4
3'-8
SEE PLAN
GIRDER A
GIRDER B
GIRDER D
GIRDER E
GIRDER F
GIRDER G
GIRDER H
GIRDER K
STA. 6759+53.00 51.17' RT.
STA. 6759+67.83 51.30' RT.
℄ W.B. APPROACH ROADWAY
℄ EAST TRUSS POST TO ℄ WEST TRUSS POST = 90'-0
N

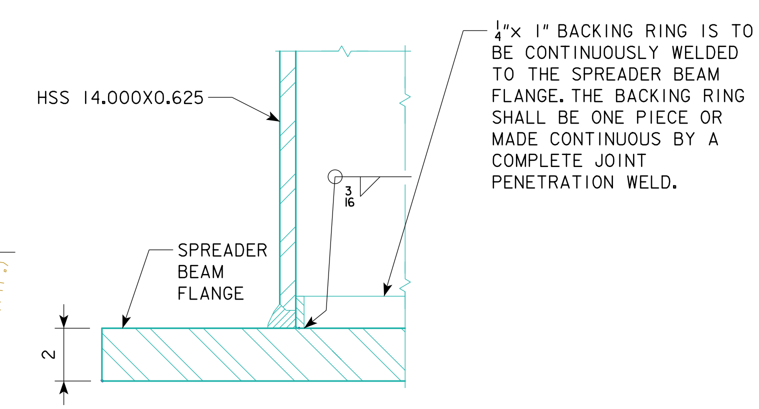
LOCATION PLAN



SECTION C-C



SECTION D-D



SECTION E-E
BOTTOM FLANGE SHOWN, TOP FLANGE SIMILAR

* BASE PLATE ON THE SIGN TRUSS IS ROTATED 22.5° FROM STANDARD ORIENTATION.

NOTES:

FOR VIEW DETAILS SEE DESIGN SHEET 198.

FOR NOTES, SEE DESIGN SHEET 199.

DESIGN FOR VARIABLE SKEW

1981'-0 x VARIES CONTINUOUS WELDED GIRDER BRIDGE

148'-0 & 187'-0 END SPANS 150'-0 & 8-187'-0 INTERIOR SPANS

SIGN TRUSS DETAILS

STA. 6757+10.50 - 47.63' RT. - I-74 NOVEMBER 2016

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 197 OF 308 FILE NO. 30253 DESIGN NO. 1017

benesch engineers · scientists · planners
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

xxxxxxxxxxSYSTEMTIME xxxxxxxUSERNAME xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxDGNSPEC
MODEL:821017S197

CHANGED BY ADDENDA 4/13/2017

NOTES:

ALL TIGHTENING OF THE NUTS IS TO BE DONE IN THE PRESENCE OF THE INSPECTOR.

PROPERLY SIZED WRENCHES DESIGNED FOR TIGHTENING NUTS AND/OR BOLTS SHALL BE USED TO AVOID ROUNDING OR OTHER DAMAGE TO THE NUTS. ADJUSTABLE END OR PIPE WRENCHES MAY NOT BE USED.

SPREADER BEAM, ANCHOR BOLTS AND NUTS ARE TO BE FREE OF ANY DIRT OR DEBRIS.

APPLY STICK WAX OR BEES WAX TO THE THREADS AND BEARING SURFACES OF THE ANCHOR BOLT, NUTS, AND WASHERS.

TIGHTEN BOTTOM NUTS SO THEY FULLY CONTACT THE TOP FLANGE OF THE SPREADER BEAM. TIGHTEN TOP NUTS TO SNUG TIGHT CONDITION. SNUG TIGHT IS DEFINED AS THE FULL EFFORT OF ONE PERSON ON A WRENCH WITH A LENGTH EQUAL TO 14 TIMES THE BOLT DIAMETER BUT NOT LESS THAN 18 INCHES. APPLY FORCE AS CLOSE TO THE END OF THE WRENCH AS POSSIBLE. PULL FIRMLY BY LEANING BACK AND USING ENTIRE BODY WEIGHT ON THE END OF THE WRENCH UNTIL THE NUT STOPS ROTATING. USE A MINIMUM OF TWO SEPARATE PASSES OF TIGHTENING. SEQUENCE THE TIGHTENING IN EACH PASS SO THAT THE NUT ON THE OPPOSITE SIDE, TO THE EXTENT POSSIBLE, WILL BE SUBSEQUENTLY TIGHTENED UNTIL ALL OF THE NUTS IN THAT PASS HAVE BEEN TIGHTENED.

TIGHTEN BOTTOM NUTS TO SNUG TIGHT AS DESCRIBED FOR THE TOP NUTS.

MATCH-MARK THE BOTTOM NUTS AND TOP FLANGE OF SPREADER BEAM USING PAINT, CRAYON, OR OTHER APPROVED MEANS TO PROVIDE A REFERENCE FOR DETERMINING THE RELATIVE ROTATION OF THE NUT AND TOP FLANGE OF SPREADER BEAM DURING TIGHTENING. USING A STRIKING OR HYDRAULIC WRENCH, FURTHER TIGHTEN THE BOTTOM NUTS IN TWO PASSES AS LISTED BELOW. USE A SEQUENCE OF TIGHTENING IN EACH PASS SO THAT THE NUT ON THE OPPOSITE SIDE, TO THE EXTENT POSSIBLE, WILL BE SUBSEQUENTLY TIGHTENED UNTIL ALL NUTS IN THAT PASS HAVE BEEN TURNED. DO NOT ROTATE THE TOP NUTS WHILE TIGHTENING THE BOTTOM NUTS.

ANCHOR-BOLT SIZE	FIRST PASS	SECOND PASS	TOTAL ROTATION
$1\frac{1}{2}$"Φ	1/6 TURN	1/6 TURN	1/3 TURN

LUBRICATE, PLACE AND TIGHTEN THE JAM NUTS TO SNUG TIGHT.

THE $1\frac{1}{2}$"Φ ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 105 MATERIAL WITH A HOT-DIP GALVANIZED COATING. ANCHOR BOLT MATERIAL SHALL ALSO MEET THE SUPPLEMENTARY REQUIREMENTS OF PARAGRAPH S5 OF ASTM F1554. NUTS FOR ANCHOR BOLTS SHALL BE ASTM A 563, HEAVY-HEX, HOT-DIP GALVANIZED. FLAT CIRCULAR WASHERS SHALL BE ASTM F436, MECHANICALLY ZINC COATED.

STEEL WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS SPECIFICATIONS D1.1, STRUCTURAL WELDING CODE--STEEL.

WELDING OF ANCHOR BOLTS SHALL NOT BE ALLOWED.

ANCHOR BOLTS SHALL BE PLUMB WITHIN $\frac{1}{4}$ INCH PER FOOT FROM VERTICAL.

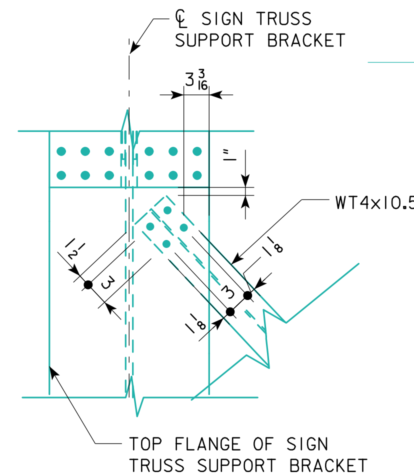
ANCHOR BOLTS SHALL PROJECT ABOVE TOP OF SUPPORT BRACKET ASSEMBLY WITHIN $\frac{1}{4}$ INCH OF THE PLAN DIMENSION.

ANCHOR BOLTS SHALL BE PROTECTED AT THE DIRECTION OF THE ENGINEER.

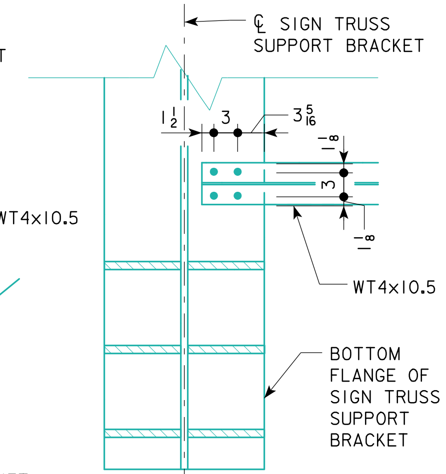
ALL FIELD CONNECTIONS ARE TO BE BOLTED USING HIGH STRENGTH FASTENERS. UNLESS OTHERWISE NOTED, OPEN HOLES ARE TO BE $\frac{15}{16}$"Φ AND BOLTS ARE TO BE $\frac{7}{8}$"Φ.

ALL NUTS DIRECTLY ABOVE AND BELOW THE SIGN TRUSS BASE PLATE SHALL BE PROVIDED IN THIS CONTRACT AND GIVEN TO THE STATE OF IOWA FOR STORAGE AND FUTURE USE. THESE NUTS, ALONG WITH THE SIGN TRUSS BASE PLATE, SHALL BE INSTALLED BY OTHERS IN A FUTURE CONTRACT.

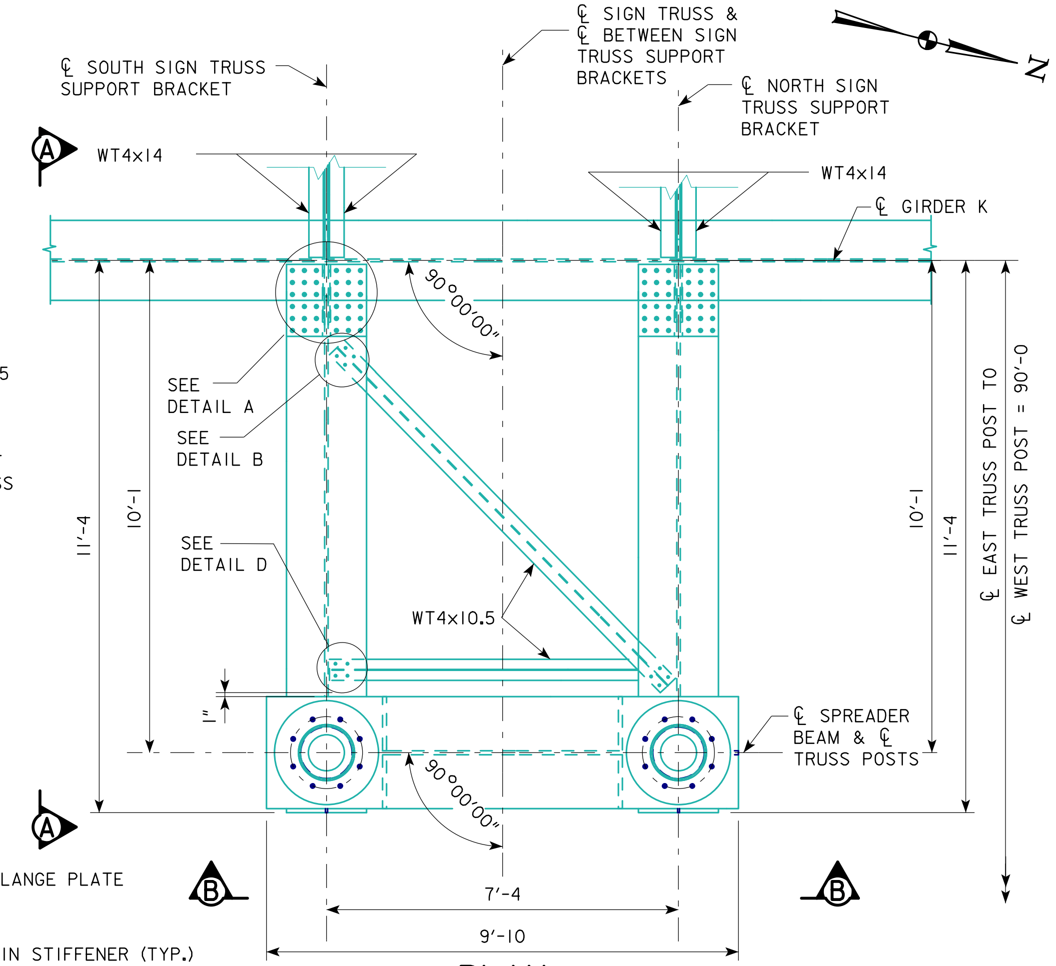
HSS 14.000x0.625 SHALL MEET THE REQUIREMENTS OF ASTM A500, GRADE B.



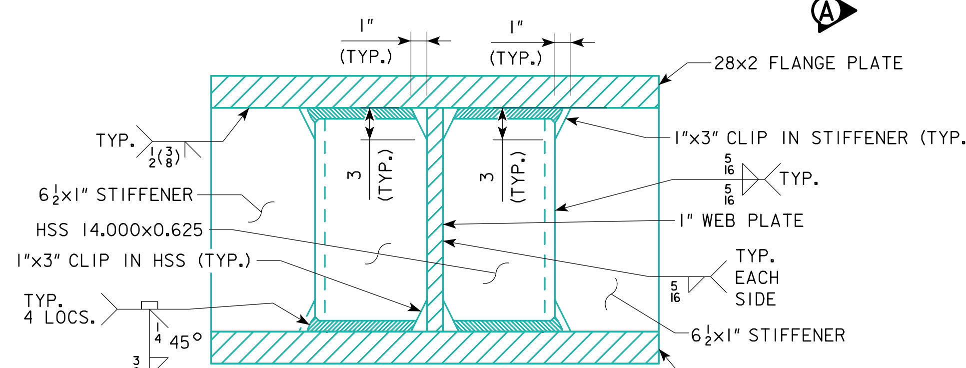
DETAIL B



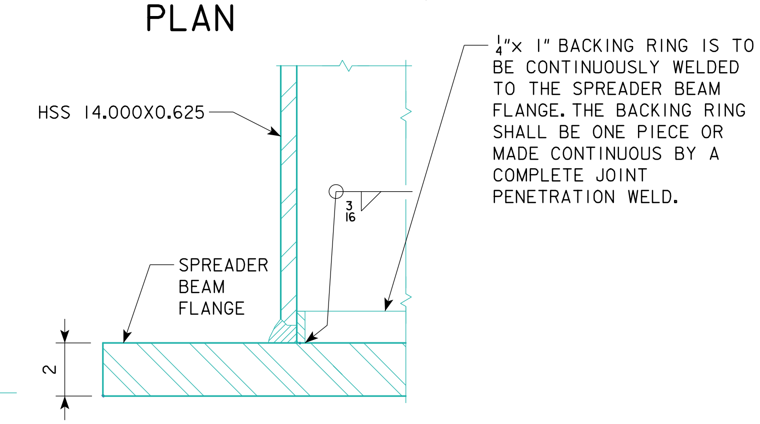
DETAIL D
(SHOWN BELOW TOP FLANGE OF BRACKET)



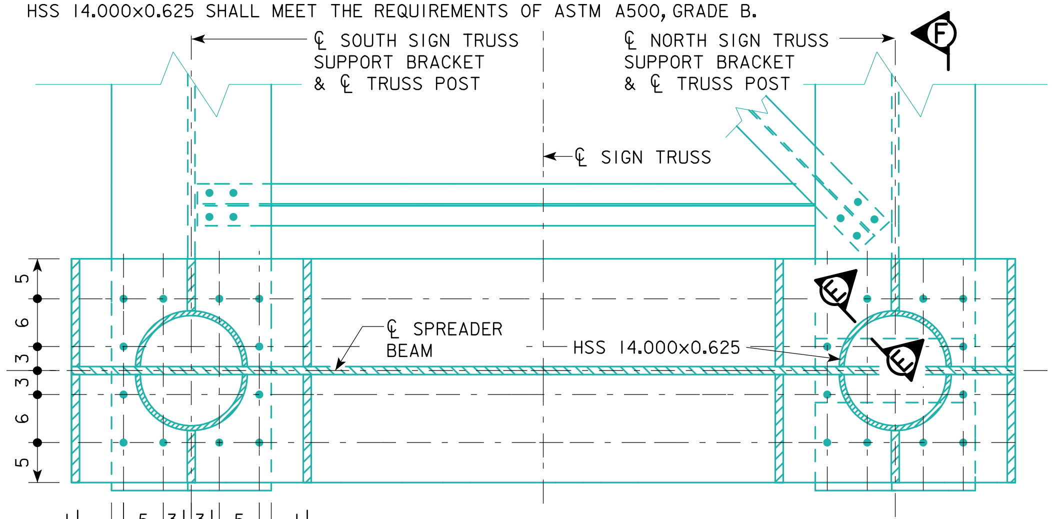
PLAN



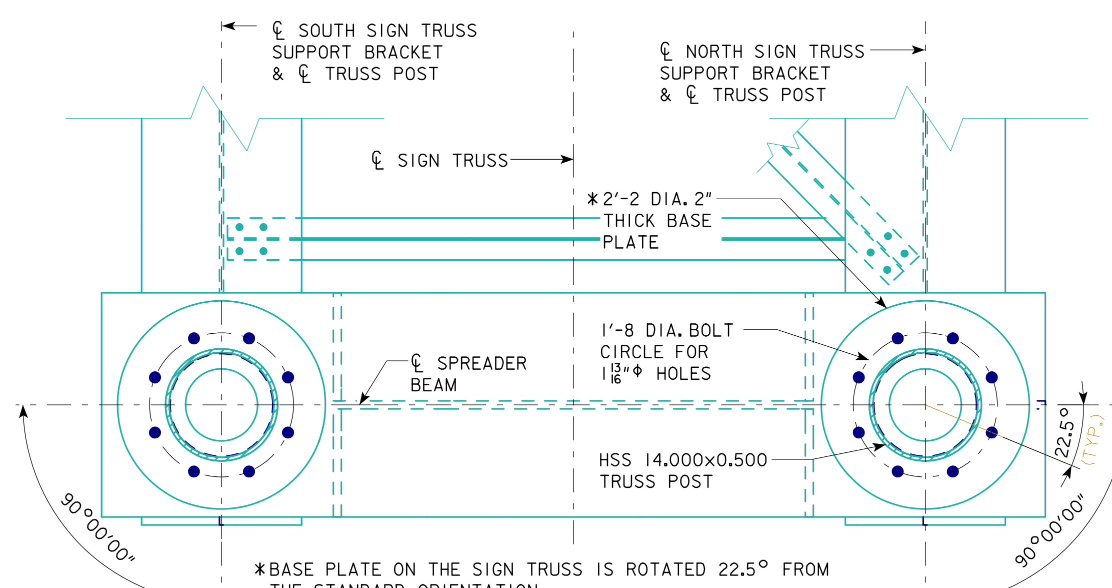
SECTION F-F



SECTION E-E
BOTTOM FLANGE SHOWN, TOP FLANGE SIMILAR



SECTION C-C



SECTION D-D

NOTES:

WORK THIS SHEEET WITH DESIGN SHEET 20Q

FOR LOCATION PLAN, SEE DESIGN SHEET 197.

benesch engineers · scientists · planners
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Chicago, Illinois 60601
312-565-0450 Job No. 10061

DESIGN FOR VARIABLE SKEW

1981'-0 x VARIES CONTINUOUS WELDED GIRDER BRIDGE

148'-0 & 187'-0 END SPANS 150'-0 & 8-187'-0 INTERIOR SPANS

SIGN TRUSS DETAILS

STA. 6757+10.50 - 47.63' RT. - I-74 NOVEMBER 2016

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 199 OF 308 FILE NO. 30253 DESIGN NO. 1017

DESIGN TEAM AWH/VH/LRB SCOTT COUNTY PROJECT NUMBER IM-NHS-074-1(197)5--03-82 SHEET NUMBER 200

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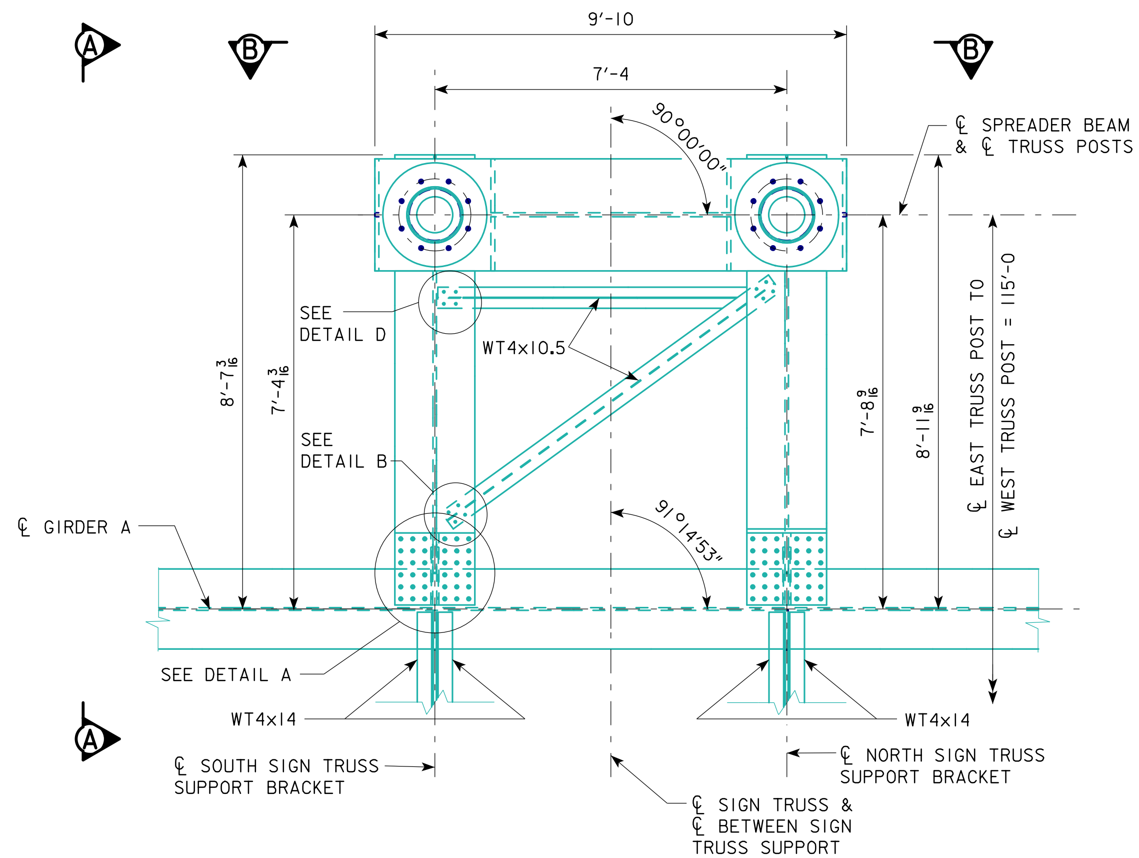
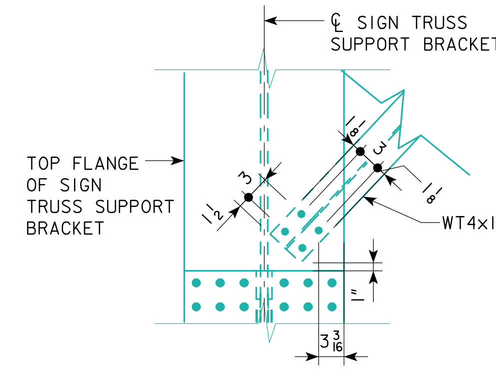
CHANGED BY ADDENDA 4/13/2017



PLAN



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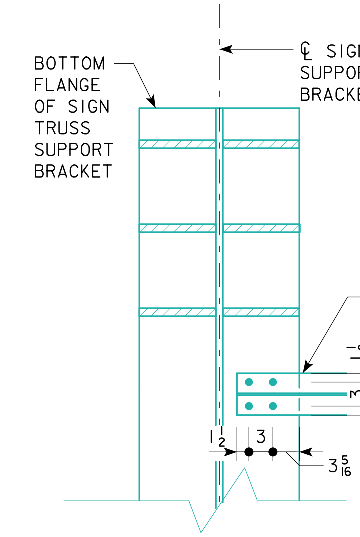

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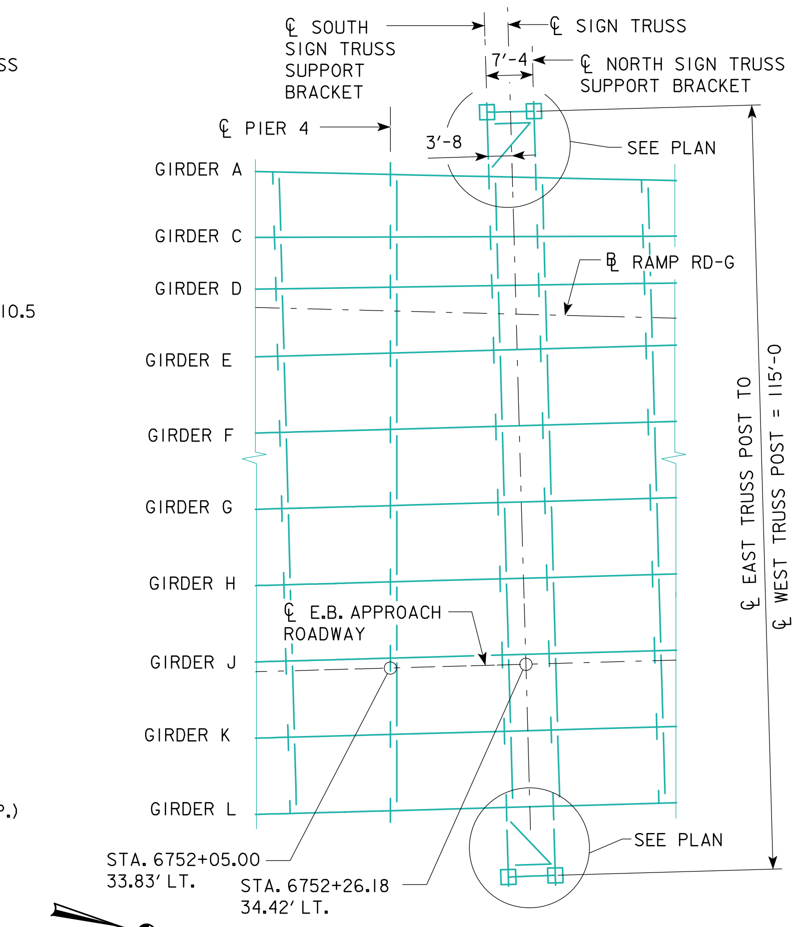
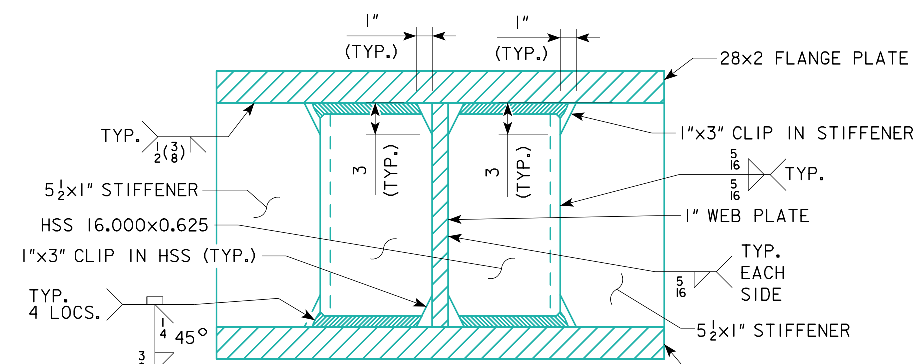
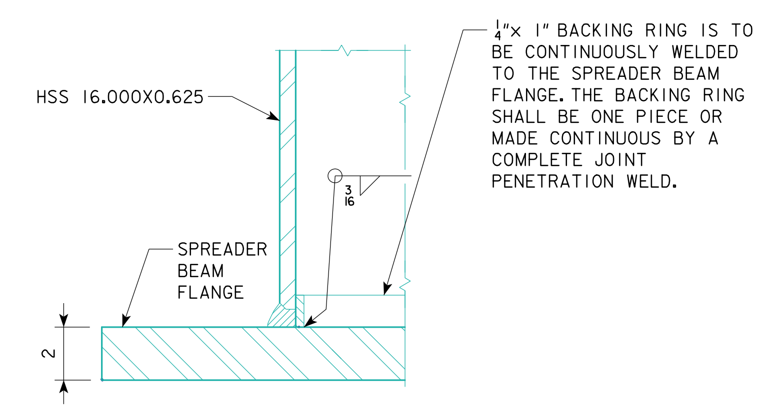


LOCATION PLAN

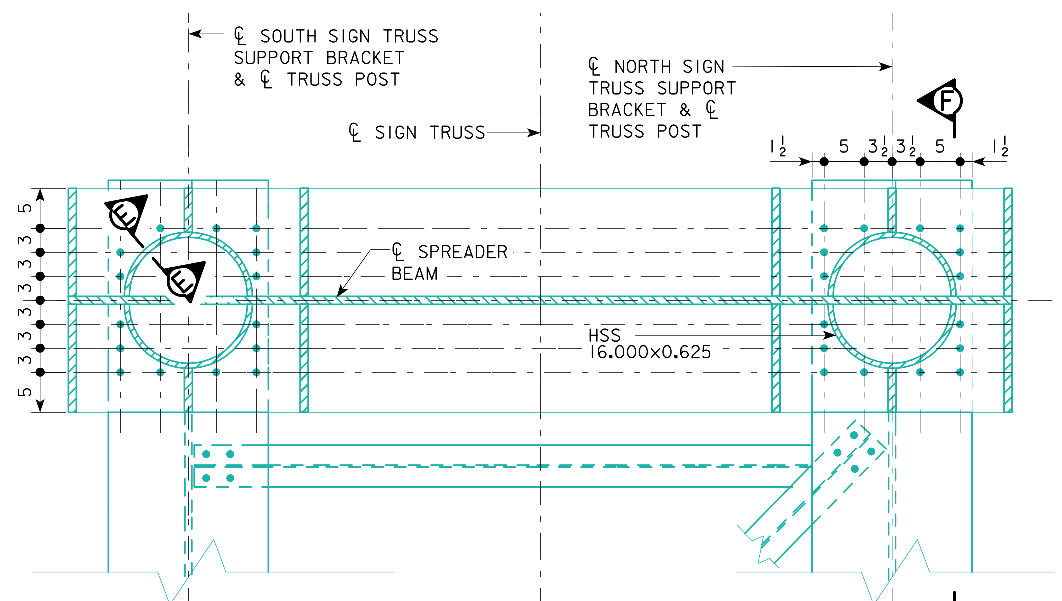


SECTION F-F

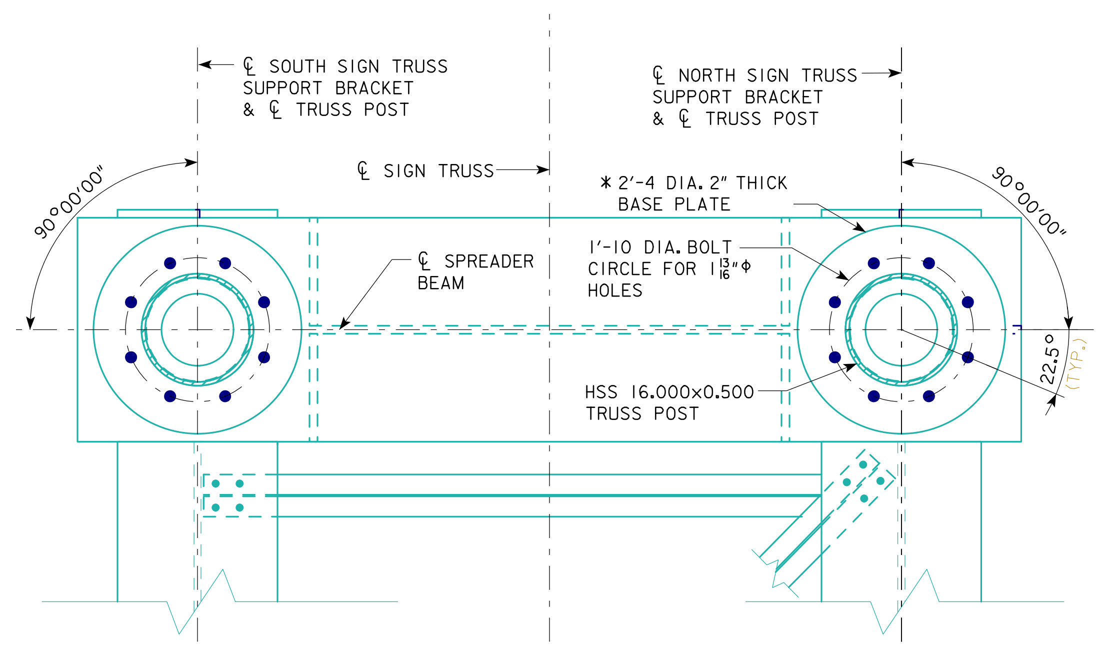


SECTION E-E

BOTTOM FLANGE SHOWN, TOP FLANGE SIMILAR



SECTION C-C



SECTION D-D

* BASE PLATE ON THE SIGN TRUSS IS ROTATED 22.5° FROM THE STANDARD ORIENTATION

NOTES:

WORK THIS SHEET WITH DESIGN SHEET 151.

FOR NOTES, SEE DESIGN SHEET 152.

DESIGN FOR 0° SKEW

1981'-0 x VARI. CONTINUOUS WELDED GIRDER BRIDGE W/14' BIKE TRAIL

148'-0 & 187'-0 END SPANS 150'-0 & 8-187'-0 INTERIOR SPANS

SIGN TRUSS SUPPORT DETAILS

STA. 6757+10.50 - 47.49' LT. - I-74 NOVEMBER 2016

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 150 OF 353 FILE NO. 30253 DESIGN NO. 1217

benesch engineers · scientists · planners
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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

xxxxxxxxxxSYSTEMTIME xxxxxxxUSERNAME xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxDGNSPEC

CHANGED BY ADDENDA 4/13/2017

MODEL:821217S150

NOTES:

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TIGHTEN BOTTOM NUTS SO THEY FULLY CONTACT THE TOP FLANGE OF THE SPREADER BEAM. TIGHTEN TOP NUTS TO SNUG TIGHT CONDITION. SNUG TIGHT IS DEFINED AS THE FULL EFFORT OF ONE PERSON ON A WRENCH WITH A LENGTH EQUAL TO 14 TIMES THE BOLT DIAMETER BUT NOT LESS THAN 18 INCHES. APPLY FORCE AS CLOSE TO THE END OF THE WRENCH AS POSSIBLE. PULL FIRMLY BY LEANING BACK AND USING ENTIRE BODY WEIGHT ON THE END OF THE WRENCH UNTIL THE NUT STOPS ROTATING. USE A MINIMUM OF TWO SEPARATE PASSES OF TIGHTENING. SEQUENCE THE TIGHTENING IN EACH PASS SO THAT THE NUT ON THE OPPOSITE SIDE, TO THE EXTENT POSSIBLE, WILL BE SUBSEQUENTLY TIGHTENED UNTIL ALL OF THE NUTS IN THAT PASS HAVE BEEN TIGHTENED.

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ANCHOR-BOLT SIZE	FIRST PASS	SECOND PASS	TOTAL ROTATION
1½"Φ	1/6 TURN	1/6 TURN	1/3 TURN

LUBRICATE, PLACE AND TIGHTEN THE JAM NUTS TO SNUG TIGHT.

THE 1½"Φ ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 105 MATERIAL WITH A HOT-DIP GALVANIZED COATING. ANCHOR BOLT MATERIAL SHALL ALSO MEET THE SUPPLEMENTARY REQUIREMENTS OF PARAGRAPH S5 OF ASTM F1554. NUTS FOR ANCHOR BOLTS SHALL BE ASTM A 563, HEAVY-HEX, HOT-DIP GALVANIZED. FLAT CIRCULAR WASHERS SHALL BE ASTM F436, MECHANICALLY ZINC COATED.

STEEL WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS SPECIFICATIONS D1.1, STRUCTURAL WELDING CODE--STEEL.

WELDING OF ANCHOR BOLTS SHALL NOT BE ALLOWED.

ANCHOR BOLTS SHALL BE PLUMB WITHIN ¼ INCH PER FOOT FROM VERTICAL.

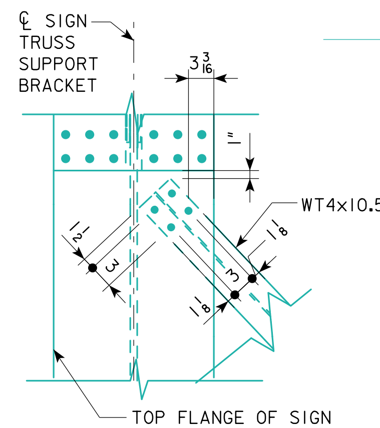
ANCHOR BOLTS SHALL PROJECT ABOVE TOP OF SUPPORT BRACKET ASSEMBLY WITHIN ¼ INCH OF THE PLAN DIMENSION.

ANCHOR BOLTS SHALL BE PROTECTED AT THE DIRECTION OF THE ENGINEER.

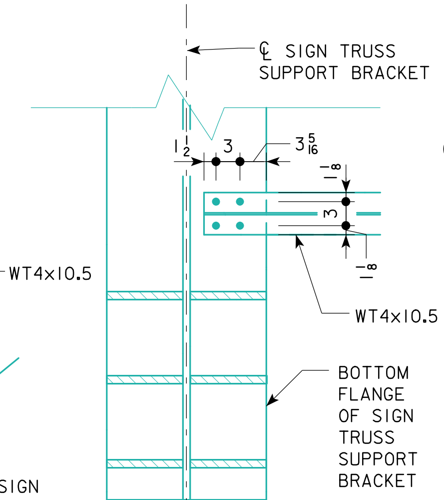
ALL FIELD CONNECTIONS ARE TO BE BOLTED USING HIGH STRENGTH FASTENERS. UNLESS OTHERWISE NOTED, OPEN HOLES ARE TO BE 15/16"Φ AND BOLTS ARE TO BE 7/8"Φ.

ALL NUTS DIRECTLY ABOVE AND BELOW THE SIGN TRUSS BASE PLATE SHALL BE PROVIDED IN THIS CONTRACT AND GIVEN TO THE STATE OF IOWA FOR STORAGE AND FUTURE USE. THESE NUTS, ALONG WITH THE SIGN TRUSS BASE PLATE, SHALL BE INSTALLED BY OTHERS IN A FUTURE CONTRACT.

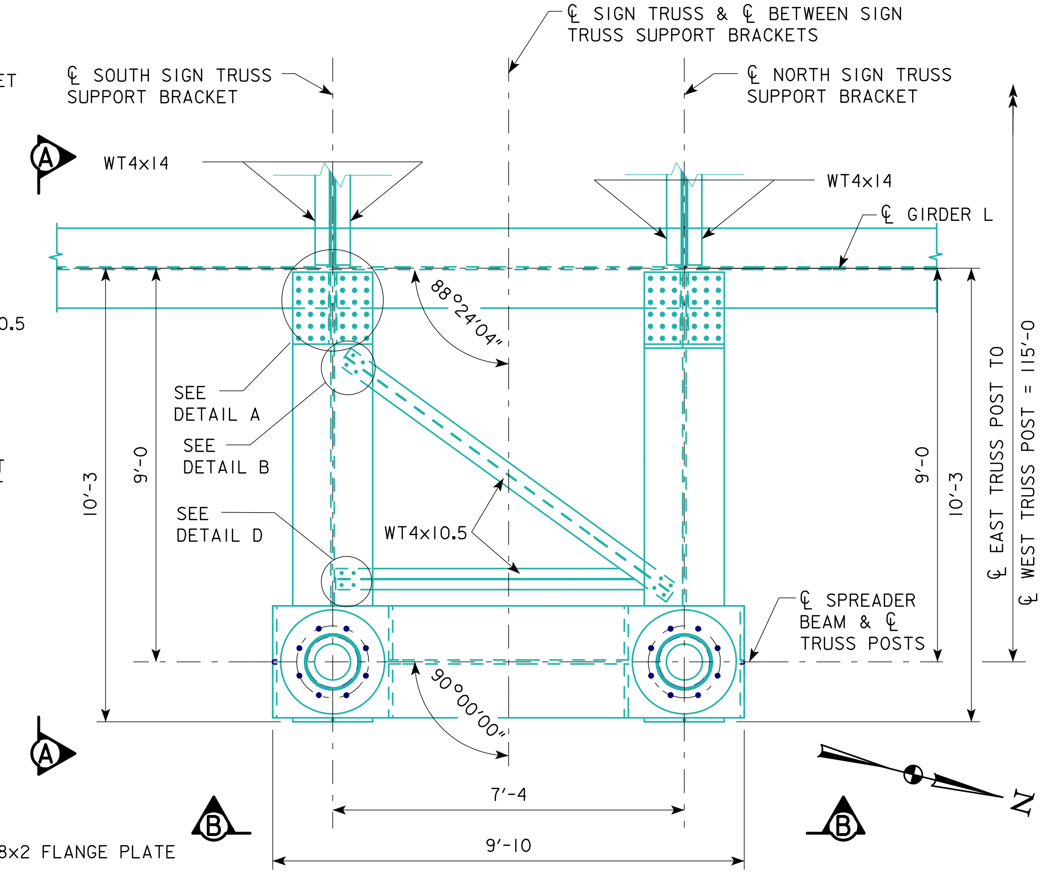
HSS 16.000x0.625 SHALL MEET THE REQUIREMENTS OF ASTM A500, GRADE B.



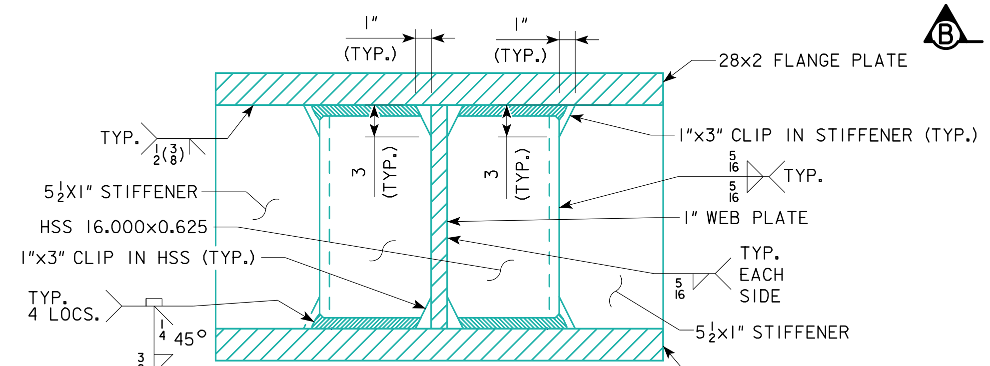
DETAIL B



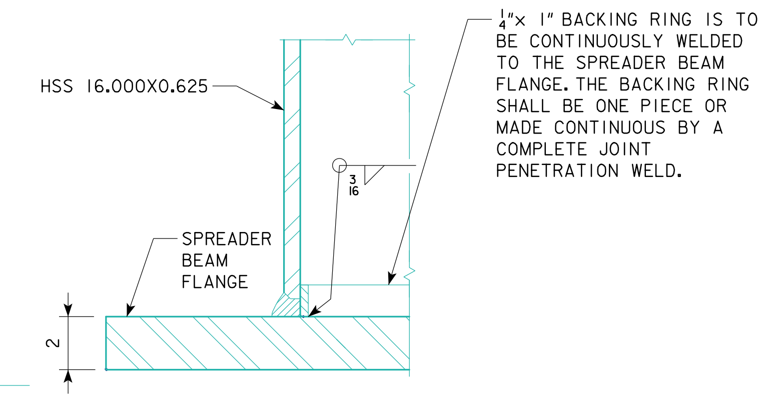
DETAIL D
(SHOWN BELOW TOP FLANGE OF BRACKET)



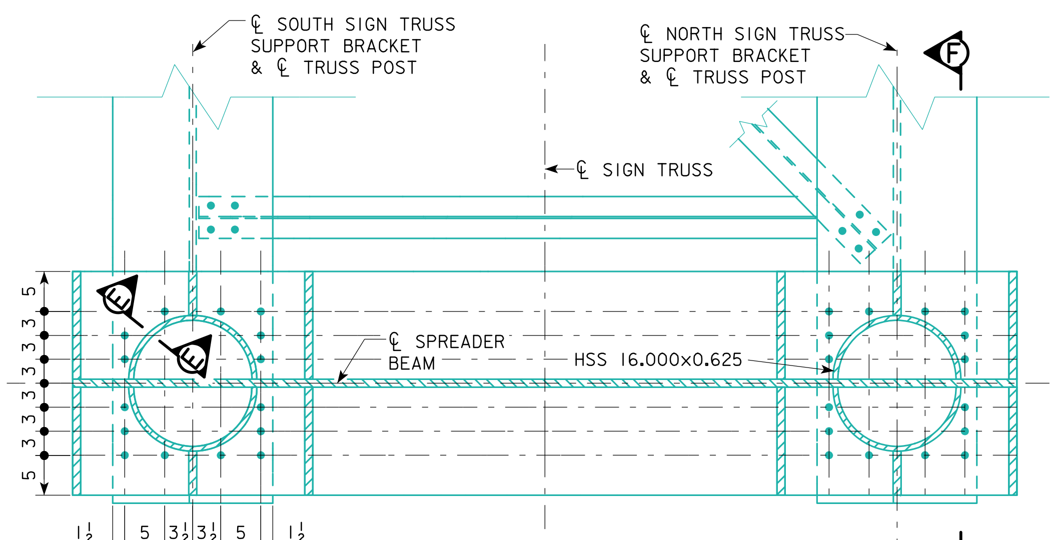
PLAN



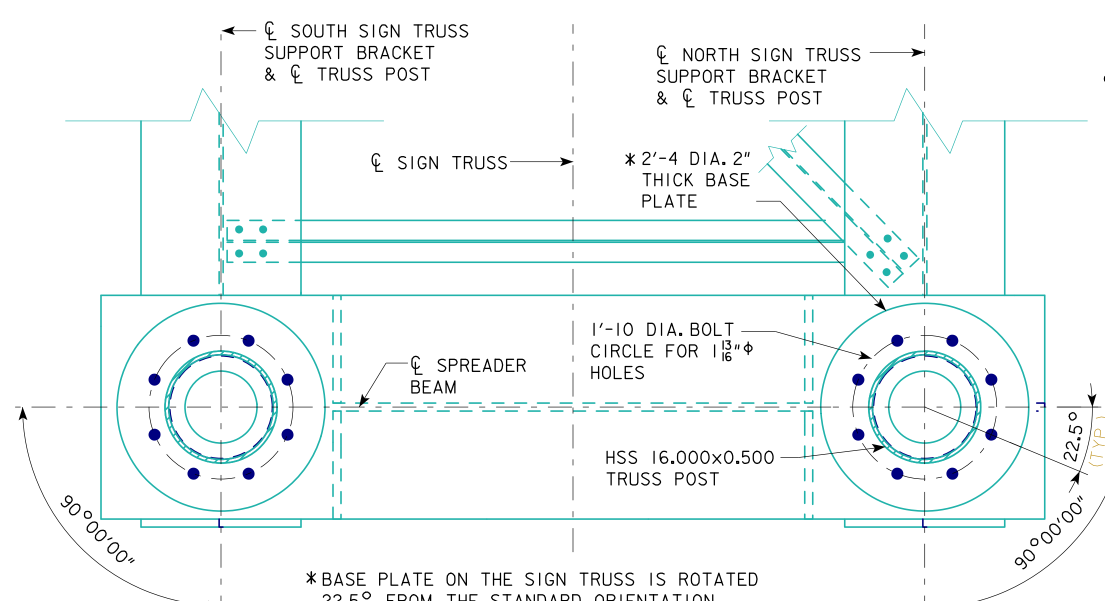
SECTION F-F



SECTION E-E
BOTTOM FLANGE SHOWN, TOP FLANGE SIMILAR



SECTION C-C



SECTION D-D

NOTES:

WORK THIS SHEET WITH DESIGN SHEET 153

FOR LOCATION PLAN, SEE DESIGN SHEET 150.

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engineers · scientists · planners
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

DESIGN FOR 0° SKEW

1981'-0 x VARI. CONTINUOUS WELDED GIRDER BRIDGE W/14' BIKE TRAIL

148'-0 & 187'-0 END SPANS 150'-0 & 8-187'-0 INTERIOR SPANS

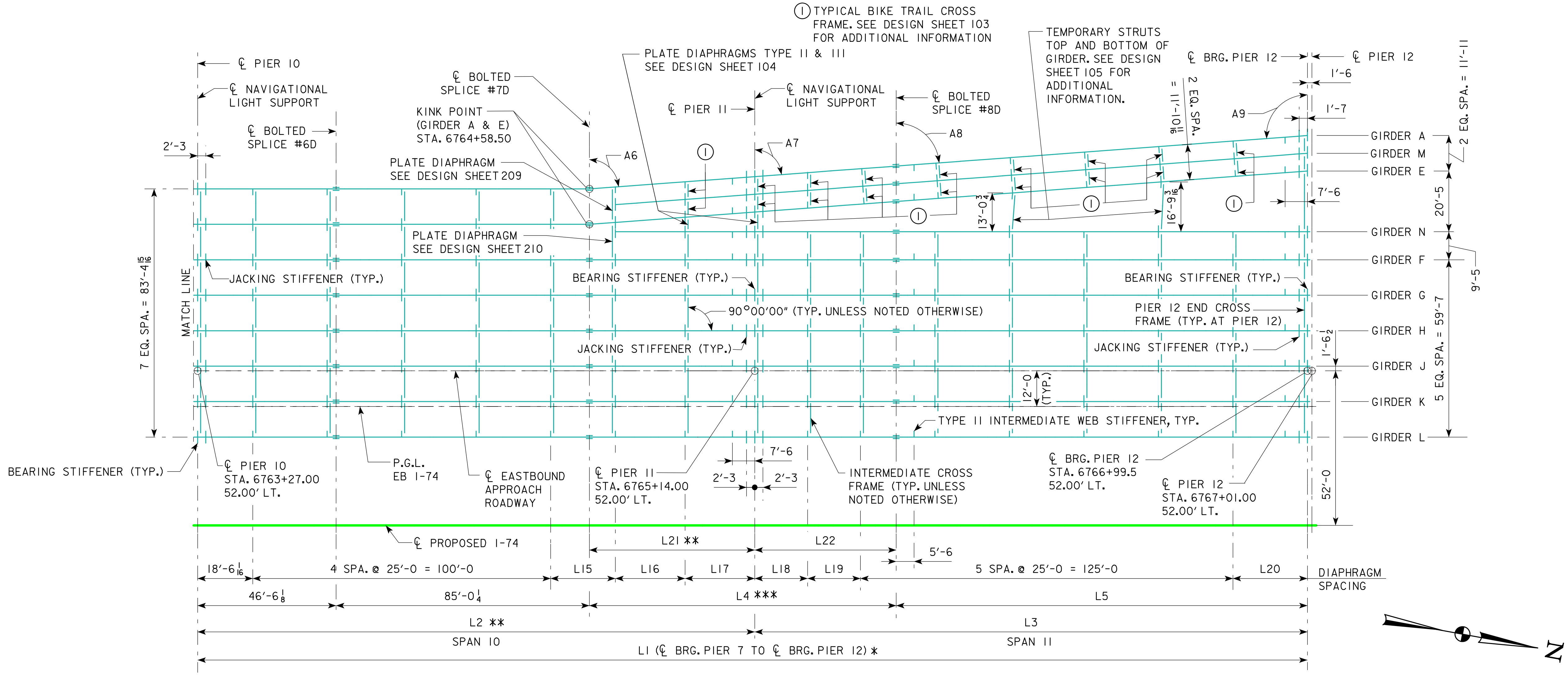
SIGN TRUSS SUPPORT DETAILS

STA. 6757+10.50 - 47.49' LT. - I-74 NOVEMBER 2016

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 152 OF 353 FILE NO. 30253 DESIGN NO. 1217



UNIT D FRAMING PLAN

GIRDER DATA

GIRDER	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11
A	932'-10 15/16	187'-2 9/16	186'-0 1/2	103'-3 11/16	138'-4 13/16	23'-6 7/8	24'-11 15/16	124'-11 11/16	18'-5 3/4	18'-6 5/16	19'-6 3/8
M	232'-11 1/8	46'-10 9/16	186'-0 1/2	94'-6 5/16	138'-4 13/16	---	---	---	---	---	---
E	932'-10 15/16	187'-2 9/16	186'-0 1/2	103'-3 11/16	138'-4 13/16	23'-9 5/16	24'-11 3/4	124'-10 3/4	18'-5 5/8	18'-4 7/8	19'-7 1/2
N	232'-1 11/16	46'-9 3/16	185'-6 1/2	94'-1 11/16	138'-0	---	---	---	---	---	---
F	932'-2 15/16	187'-0 9/16	185'-6 1/2	103'-0 3/4	138'-0	23'-11 3/4	24'-11 9/16	124'-9 13/16	18'-5 1/2	18'-3 1/2	19'-8 11/16
G	932'-2 15/16	187'-0 9/16	185'-6 1/2	103'-0 3/4	138'-0	24'-2 1/4	24'-11 7/16	124'-9 3/16	18'-5 3/8	18'-2 1/16	19'-9 13/16
H	932'-2 15/16	187'-0 9/16	185'-6 1/2	103'-0 3/4	138'-0	24'-4 11/16	24'-11 1/4	124'-8 1/4	18'-5 1/4	18'-0 5/8	19'-11
J	932'-2 15/16	187'-0 9/16	185'-6 1/2	103'-0 3/4	138'-0	24'-7 1/8	24'-11 1/16	124'-7 5/16	18'-5 1/8	17'-11 3/16	20'-0 1/8
K	932'-2 15/16	187'-0 9/16	185'-6 1/2	103'-0 3/4	138'-0	24'-9 9/16	24'-10 7/8	124'-6 3/8	18'-5	17'-9 3/4	20'-1 5/16
L	932'-2 15/16	187'-0 9/16	185'-6 1/2	103'-0 3/4	138'-0	25'-0	24'-10 11/16	124'-5 7/16	18'-4 7/8	17'-8 5/16	20'-2 7/16

GIRDER	L12	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22
A	25'-0	150'-0	17'-6 1/4	21'-9 7/16	23'-5 5/16	23'-5 5/16	17'-9 3/4	18'-2 1/2	25'-0	55'-8	47'-7 11/16
M	---	---	---	---	23'-5 5/16	23'-5 5/16	17'-9 11/16	18'-7 3/16	24'-7 3/8	46'-10 9/16	47'-7 11/16
E	24'-11 13/16	149'-10 7/8	17'-6 1/8	21'-9 7/16	23'-5 5/16	23'-5 5/16	17'-9 11/16	18'-11 7/8	24'-2 3/4	55'-8	47'-7 11/16
N	---	---	---	---	23'-4 1/2	23'-4 11/16	17'-9 1/2	17'-9	25'-0	46'-7 3/16	47'-6 1/2
F	24'-11 5/8	149'-9 3/4	17'-6 1/16	21'-9	23'-4 1/2	23'-4 3/4	17'-9 1/2	17'-9	25'-0	55'-6 1/4	47'-6 1/2
G	24'-11 7/16	149'-8 5/8	17'-5 15/16	21'-9	23'-4 1/2	23'-4 3/4	17'-9 1/2	17'-9	25'-0	55'-6 1/4	47'-6 1/2
H	24'-11 5/16	149'-7 7/8	17'-5 7/8	21'-9	23'-4 1/2	23'-4 3/4	17'-9 1/2	17'-9	25'-0	55'-6 1/4	47'-6 1/2
J	24'-11 1/8	149'-6 3/4	17'-5 13/16	21'-9	23'-4 1/2	23'-4 3/4	17'-9 1/2	17'-9	25'-0	55'-6 1/4	47'-6 1/2
K	24'-10 15/16	149'-5 5/8	17'-5 11/16	21'-9	23'-4 1/2	23'-4 3/4	17'-9 1/2	17'-9	25'-0	55'-6 1/4	47'-6 1/2
L	24'-10 3/4	149'-4 1/2	17'-5 5/8	21'-9	23'-4 1/2	23'-4 3/4	17'-9 1/2	17'-9	25'-0	55'-6 1/4	47'-6 1/2

* MEASURED FROM END OF GIRDER TO ℄ BRG. PIER 12 FOR GIRDERS M AND N
** MEASURED FROM END OF GIRDER TO ℄ PIER 11 FOR GIRDERS M AND N
*** MEASURED FROM END OF GIRDER TO ℄ SPLICE 8D FOR GIRDERS M AND N

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DESIGN FOR 0° SKEW

1981'-0 x VARI. CONTINUOUS WELDED GIRDER BRIDGE W/14' BIKE TRAIL

148'-0 & 187'-0 END SPANS 150'-0 & 8-187'-0 INTERIOR SPANS

FRAMING PLAN (UNIT D)

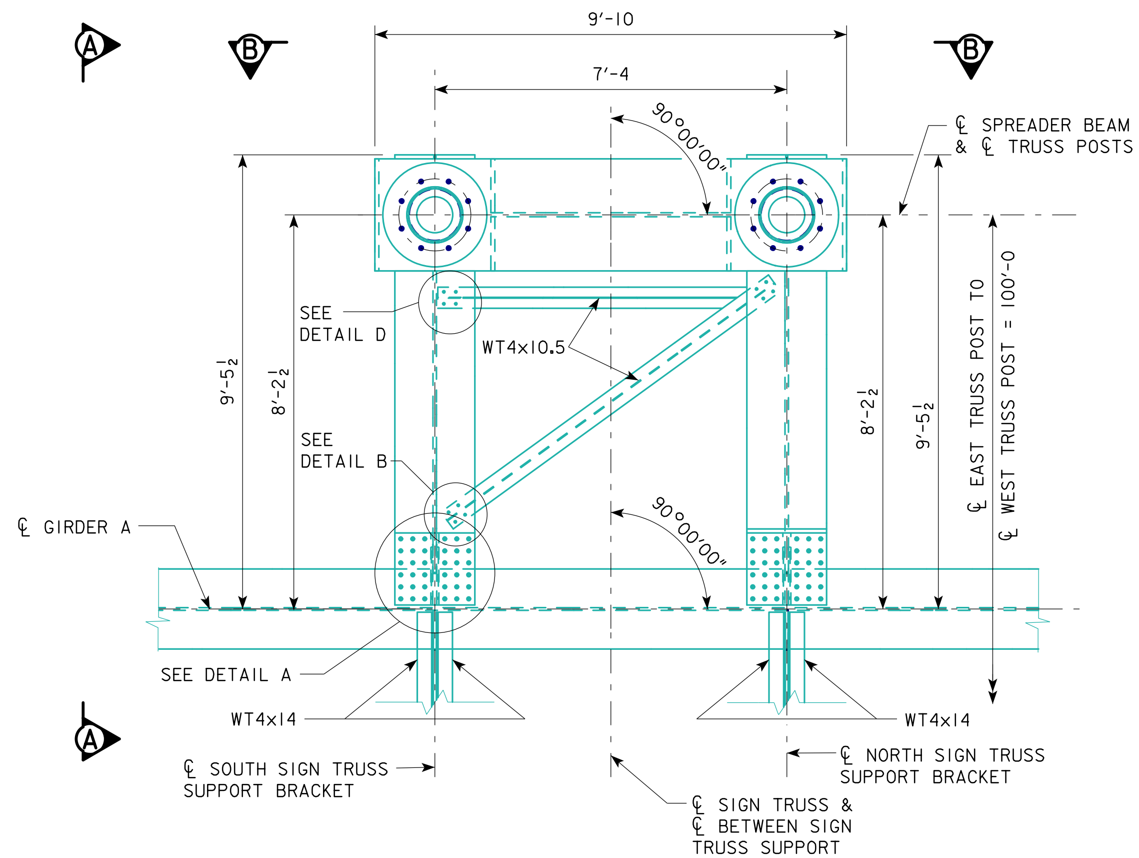
STA. 6757+10.50 - 47.49' LT. - I-74 NOVEMBER 2016

SCOTT COUNTY

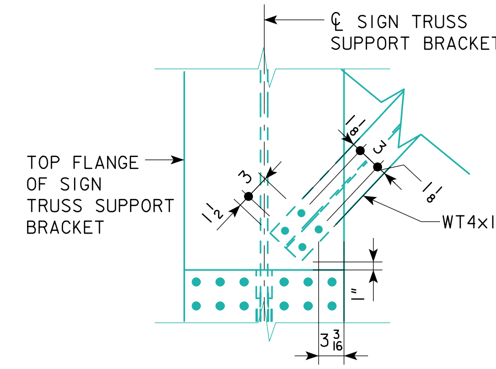
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 192 OF 353 FILE NO. 30253 DESIGN NO. 1217

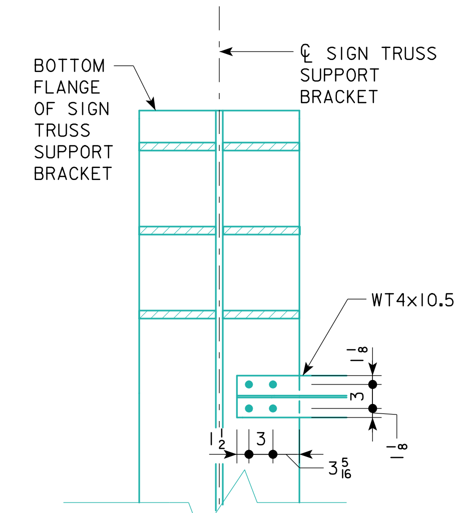
CHANGED BY ADDENDA 4/13/2017



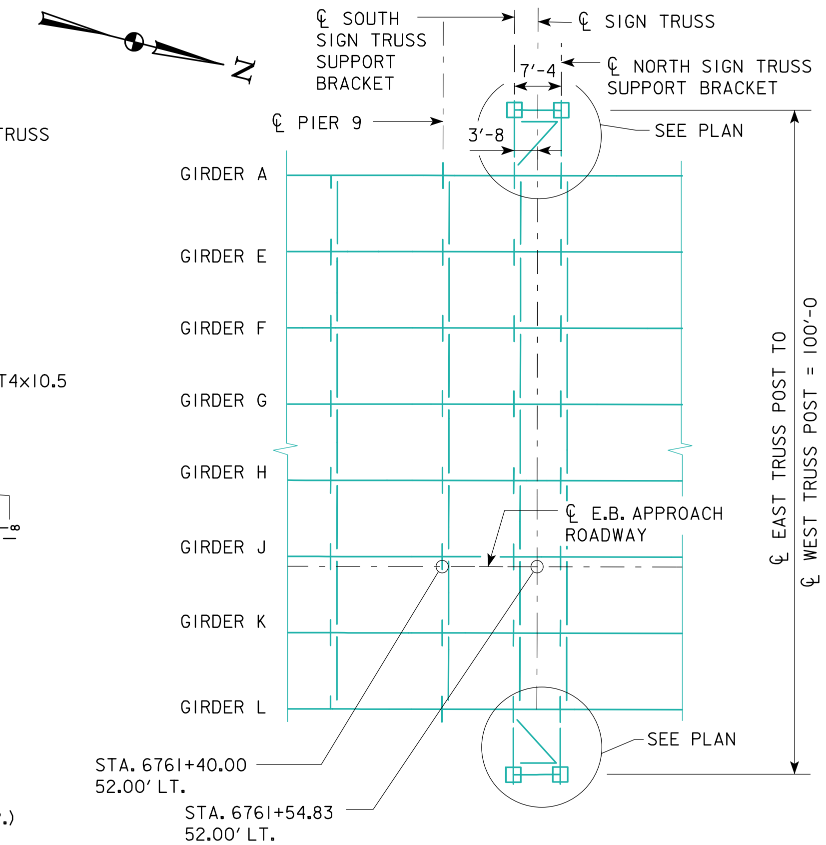
PLAN



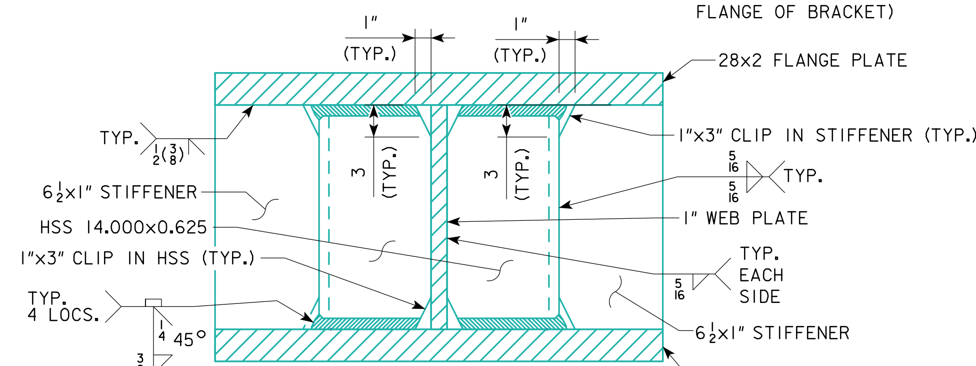
DETAIL B



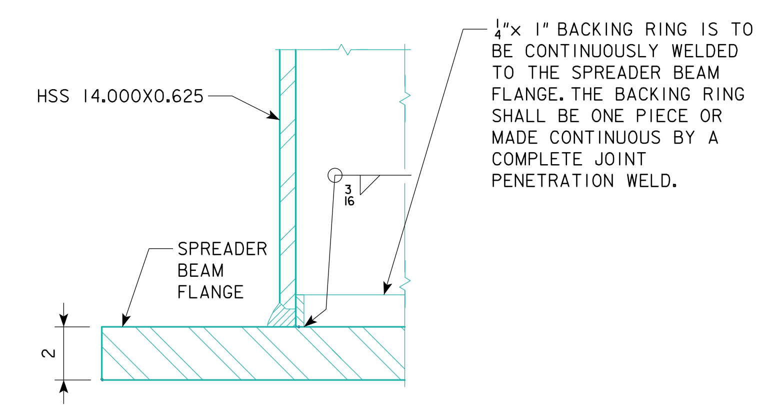
DETAIL D
(SHOWN BELOW TOP FLANGE OF BRACKET)



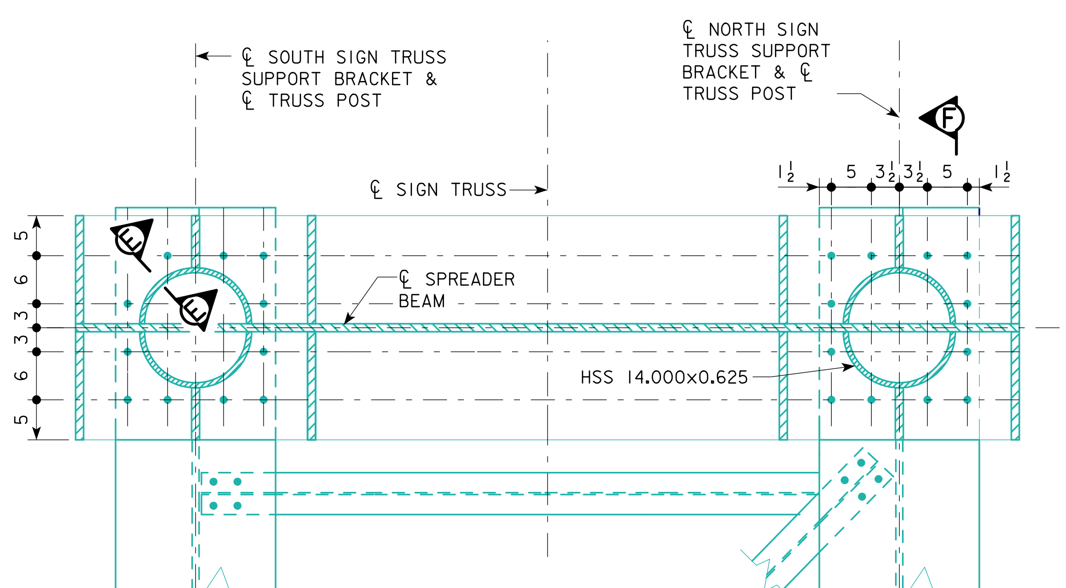
LOCATION PLAN



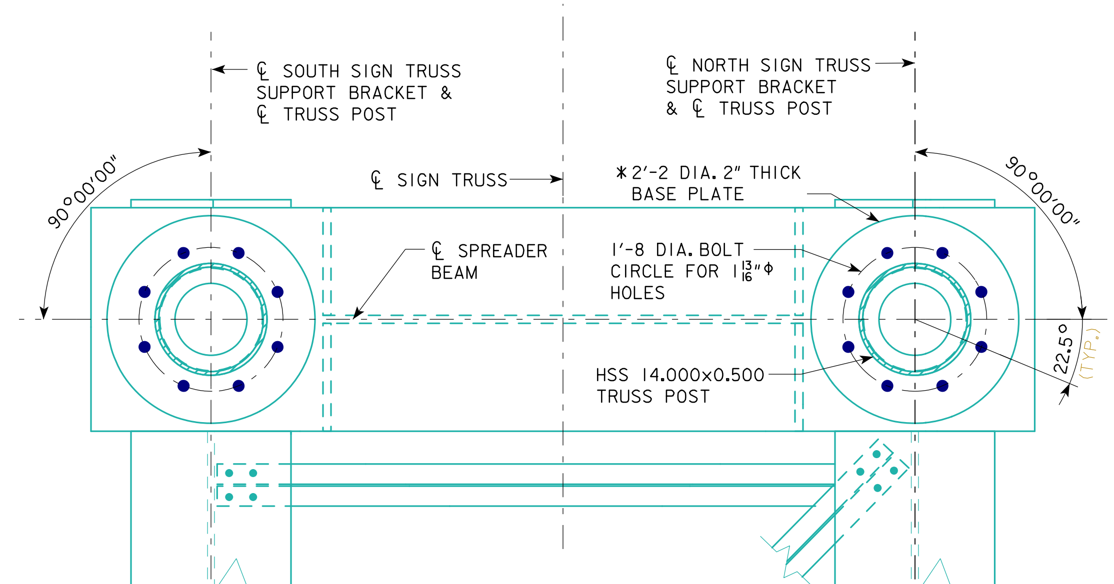
SECTION F-F



SECTION E-E
BOTTOM FLANGE SHOWN, TOP FLANGE SIMILAR



SECTION C-C



SECTION D-D

* BASE PLATE ON THE SIGN TRUSS IS ROTATED 22.5° FROM THE STANDARD ORIENTATION

NOTES:

WORK THIS SHEET WITH DESIGN SHEET 204.

FOR NOTES, SEE DESIGN SHEET 205.

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DESIGN FOR 0° SKEW

1981'-0 x VARI. CONTINUOUS WELDED GIRDER BRIDGE W/14' BIKE TRAIL

148'-0 & 187'-0 END SPANS 150'-0 & 8-187'-0 INTERIOR SPANS

SIGN TRUSS SUPPORT DETAILS

STA. 6757+10.50 - 47.49' LT. - I-74 NOVEMBER 2016

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 203 OF 353 FILE NO. 30253 DESIGN NO. 1217

DESIGN TEAM	AWH/VH/LRB	SCOTT COUNTY	PROJECT NUMBER IM-NHS-074-1(197)5--03-82	SHEET NUMBER	512

NOTES:

ALL TIGHTENING OF THE NUTS IS TO BE DONE IN THE PRESENCE OF THE INSPECTOR.

PROPERLY SIZED WRENCHES DESIGNED FOR TIGHTENING NUTS AND/OR BOLTS SHALL BE USED TO AVOID ROUNDING OR OTHER DAMAGE TO THE NUTS. ADJUSTABLE END OR PIPE WRENCHES MAY NOT BE USED.

SPREADER BEAM, ANCHOR BOLTS AND NUTS ARE TO BE FREE OF ANY DIRT OR DEBRIS.

APPLY STICK WAX OR BEES WAX TO THE THREADS AND BEARING SURFACES OF THE ANCHOR BOLT, NUTS, AND WASHERS.

TIGHTEN BOTTOM NUTS SO THEY FULLY CONTACT THE TOP FLANGE OF THE SPREADER BEAM. TIGHTEN TOP NUTS TO SNUG TIGHT CONDITION. SNUG TIGHT IS DEFINED AS THE FULL EFFORT OF ONE PERSON ON A WRENCH WITH A LENGTH EQUAL TO 14 TIMES THE BOLT DIAMETER BUT NOT LESS THAN 18 INCHES. APPLY FORCE AS CLOSE TO THE END OF THE WRENCH AS POSSIBLE. PULL FIRMLY BY LEANING BACK AND USING ENTIRE BODY WEIGHT ON THE END OF THE WRENCH UNTIL THE NUT STOPS ROTATING. USE A MINIMUM OF TWO SEPARATE PASSES OF TIGHTENING. SEQUENCE THE TIGHTENING IN EACH PASS SO THAT THE NUT ON THE OPPOSITE SIDE, TO THE EXTENT POSSIBLE, WILL BE SUBSEQUENTLY TIGHTENED UNTIL ALL OF THE NUTS IN THAT PASS HAVE BEEN TIGHTENED.

TIGHTEN BOTTOM NUTS TO SNUG TIGHT AS DESCRIBED FOR THE TOP NUTS.

MATCH-MARK THE BOTTOM NUTS AND TOP FLANGE OF SPREADER BEAM USING PAINT, CRAYON, OR OTHER APPROVED MEANS TO PROVIDE A REFERENCE FOR DETERMINING THE RELATIVE ROTATION OF THE NUT AND TOP FLANGE OF SPREADER BEAM DURING TIGHTENING. USING A STRIKING OR HYDRAULIC WRENCH, FURTHER TIGHTEN THE BOTTOM NUTS IN TWO PASSES AS LISTED BELOW. USE A SEQUENCE OF TIGHTENING IN EACH PASS SO THAT THE NUT ON THE OPPOSITE SIDE, TO THE EXTENT POSSIBLE, WILL BE SUBSEQUENTLY TIGHTENED UNTIL ALL NUTS IN THAT PASS HAVE BEEN TURNED. DO NOT ROTATE THE TOP NUTS WHILE TIGHTENING THE BOTTOM NUTS.

ANCHOR-BOLT SIZE	FIRST PASS	SECOND PASS	TOTAL ROTATION
$1\frac{1}{2}$"Φ	1/6 TURN	1/6 TURN	1/3 TURN

LUBRICATE, PLACE AND TIGHTEN THE JAM NUTS TO SNUG TIGHT.

THE $1\frac{1}{2}$"Φ ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 105 MATERIAL WITH A HOT-DIP GALVANIZED COATING. ANCHOR BOLT MATERIAL SHALL ALSO MEET THE SUPPLEMENTARY REQUIREMENTS OF PARAGRAPH S5 OF ASTM F1554. NUTS FOR ANCHOR BOLTS SHALL BE ASTM A 563, HEAVY-HEX, HOT-DIP GALVANIZED. FLAT CIRCULAR WASHERS SHALL BE ASTM F436, MECHANICALLY ZINC COATED.

STEEL WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS SPECIFICATIONS D1.1, STRUCTURAL WELDING CODE--STEEL.

WELDING OF ANCHOR BOLTS SHALL NOT BE ALLOWED.

ANCHOR BOLTS SHALL BE PLUMB WITHIN $\frac{1}{4}$ INCH PER FOOT FROM VERTICAL.

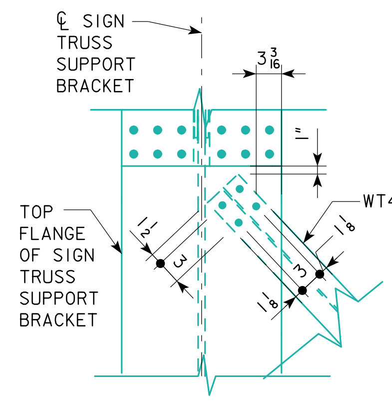
ANCHOR BOLTS SHALL PROJECT ABOVE TOP OF SUPPORT BRACKET ASSEMBLY WITHIN $\frac{1}{4}$ INCH OF THE PLAN DIMENSION.

ANCHOR BOLTS SHALL BE PROTECTED AT THE DIRECTION OF THE ENGINEER.

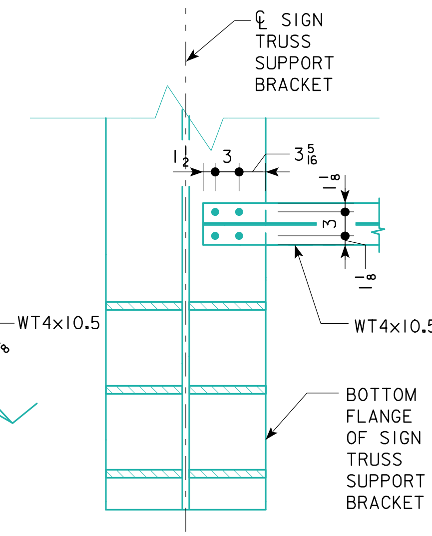
ALL FIELD CONNECTIONS ARE TO BE BOLTED USING HIGH STRENGTH FASTENERS. UNLESS OTHERWISE NOTED, OPEN HOLES ARE TO BE $\frac{15}{16}$"Φ AND BOLTS ARE TO BE $\frac{7}{8}$"Φ.

ALL NUTS DIRECTLY ABOVE AND BELOW THE SIGN TRUSS BASE PLATE SHALL BE PROVIDED IN THIS CONTRACT AND GIVEN TO THE STATE OF IOWA FOR STORAGE AND FUTURE USE. THESE NUTS, ALONG WITH THE SIGN TRUSS BASE PLATE, SHALL BE INSTALLED BY OTHERS IN A FUTURE CONTRACT.

HSS 14.000x0.625 SHALL MEET THE REQUIREMENTS OF ASTM A500, GRADE B.

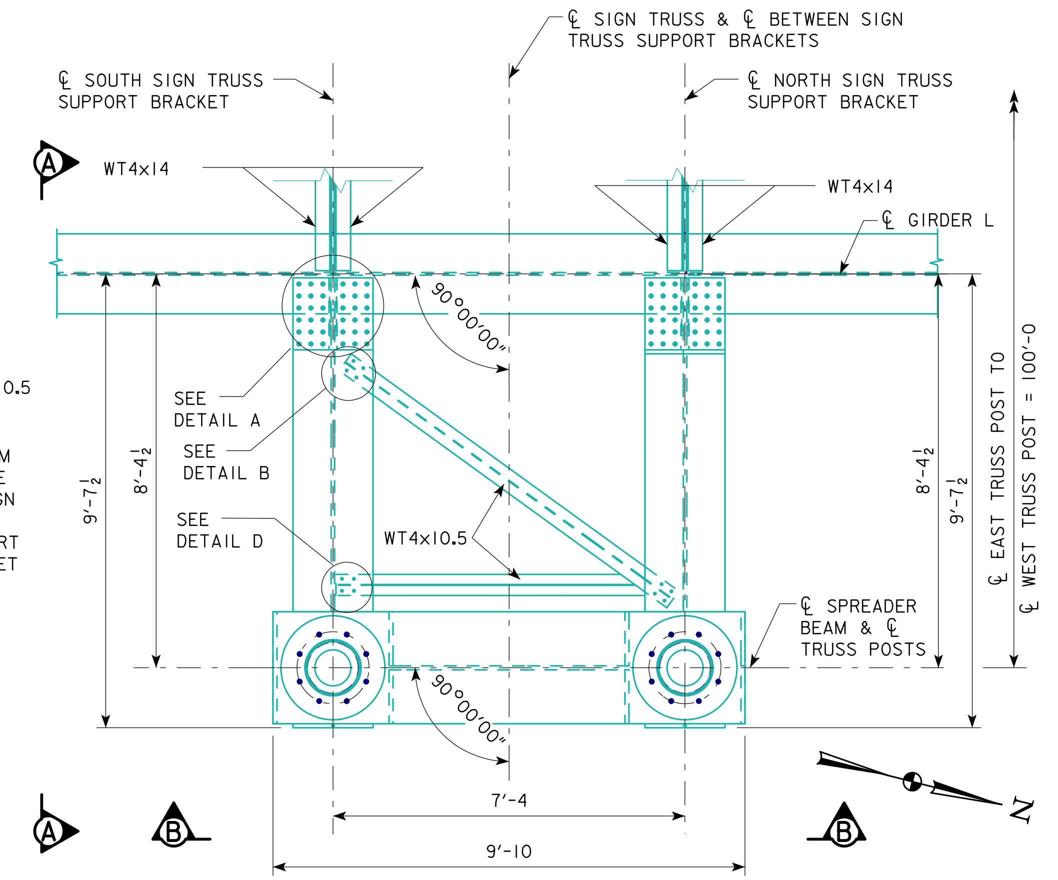


DETAIL B

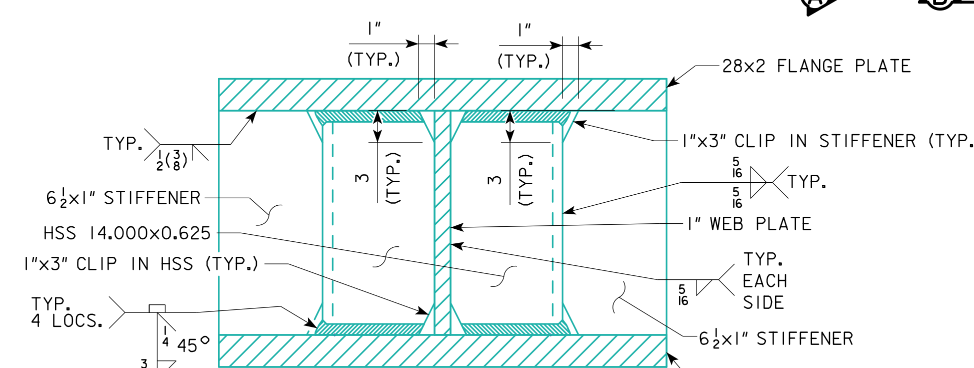


DETAIL D

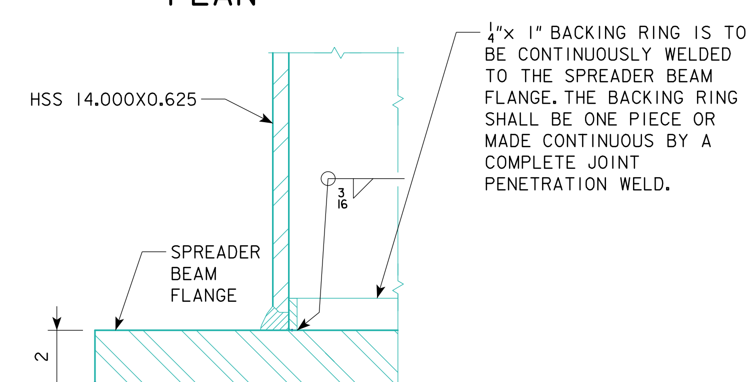
(SHOWN BELOW TOP FLANGE OF BRACKET)



PLAN

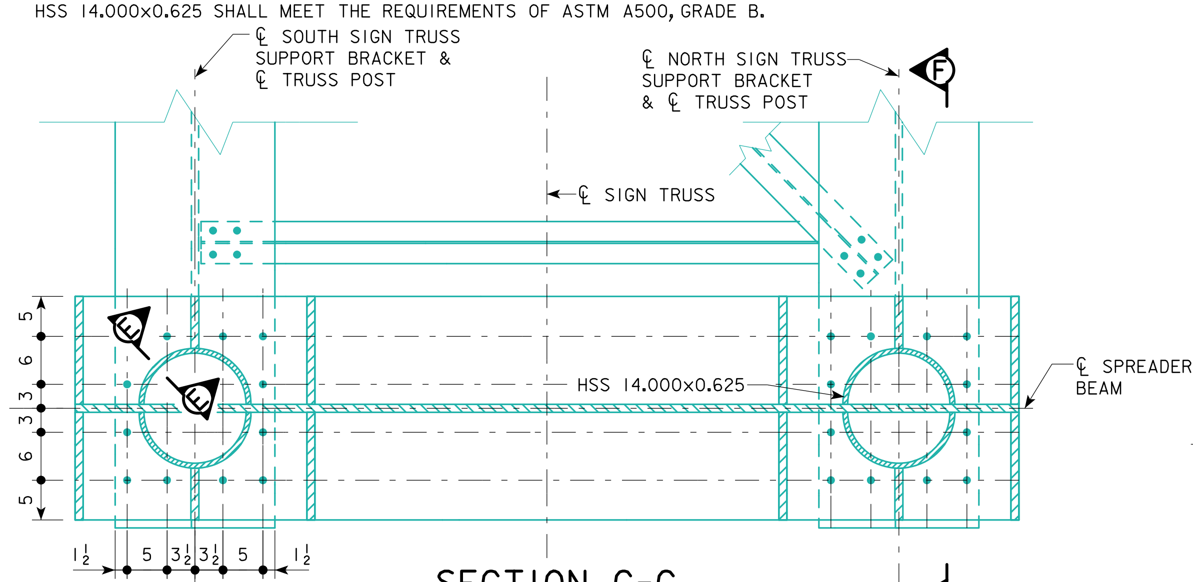


SECTION F-F

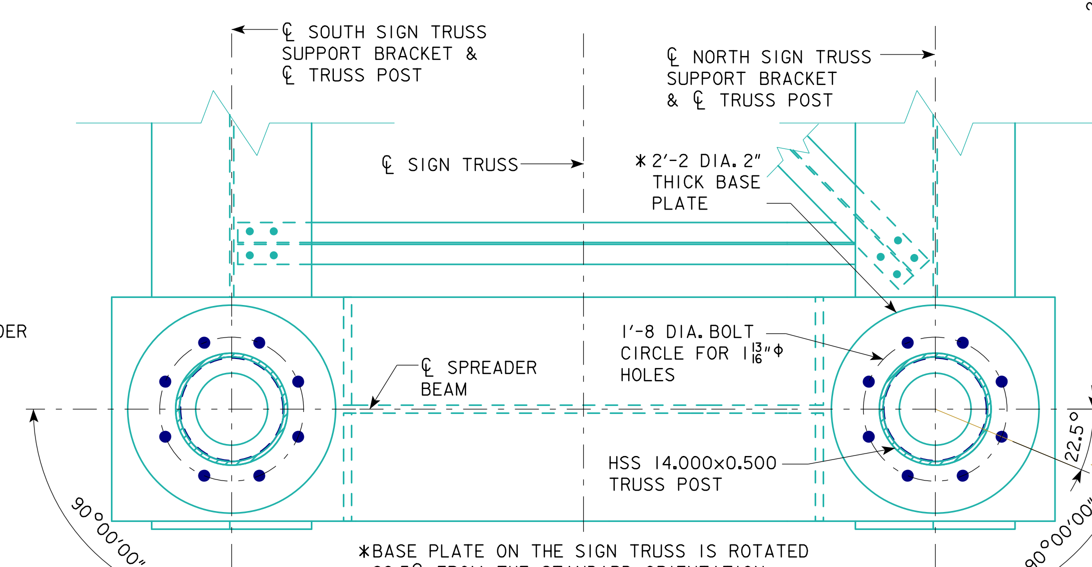


SECTION E-E

BOTTOM FLANGE SHOWN, TOP FLANGE SIMILAR



SECTION C-C



*BASE PLATE ON THE SIGN TRUSS IS ROTATED 22.5° FROM THE STANDARD ORIENTATION

SECTION D-D

NOTES:

WORK THIS SHEET WITH DESIGN SHEET 206.

FOR LOCATION PLAN, SEE DESIGN SHEET 203.

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DESIGN FOR 0° SKEW

1981'-0 x VARI. CONTINUOUS WELDED GIRDER BRIDGE W/14' BIKE TRAIL

148'-0 & 187'-0 END SPANS 150'-0 & 8-187'-0 INTERIOR SPANS

SIGN TRUSS SUPPORT DETAILS

STA. 6757+10.50 - 47.49' LT. - I-74 NOVEMBER 2016

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 205 OF 353 FILE NO. 30253 DESIGN NO. 1217

DESIGN TEAM MWH/VH/LRB | SCOTT COUNTY | PROJECT NUMBER IM-NHS-074-1(197)5--03-82 | SHEET NUMBER 514

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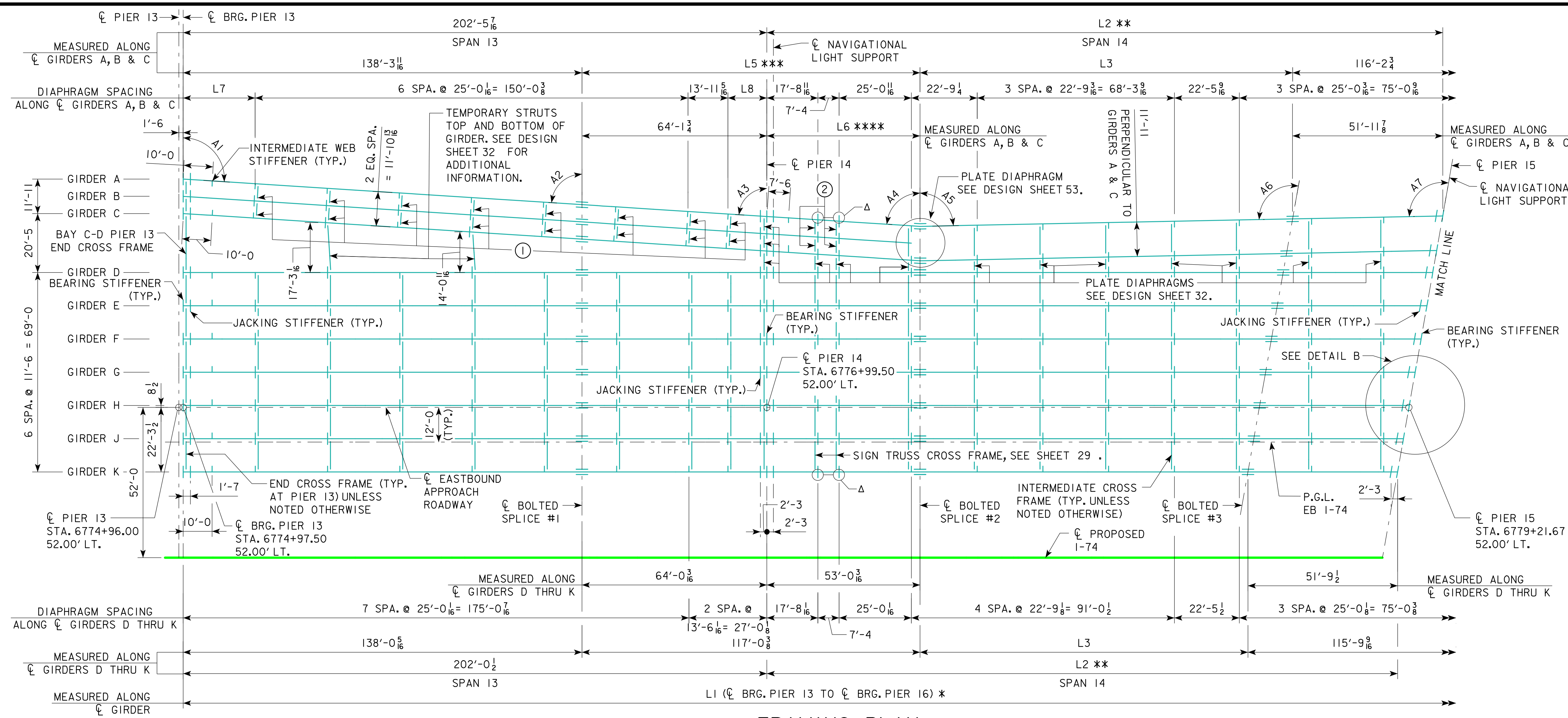
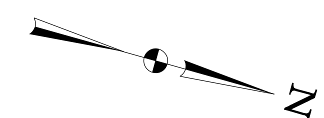
CHANGED BY ADDENDA 4/13/2017



FRAMING PLAN



GIRDER DATA								
GIRDER	L1	L2	L3	L4	L5	L6	L7	L8
A	639'-4 1/8	234'-0 15/16	128'-11 9/16	21'-10 1/4	117'-3 1/4	53'-1 1/2	25'-0 1/16	13'-5 11/16
B	252'-6 13/16	50'-1 3/8	---	---	114'-3 1/8	50'-1 3/8	24'-8 1/16	13'-9 11/16
C	637'-2 13/16	231'-11 5/8	126'-10 1/4	19'-8 15/16	117'-3 1/4	53'-1 1/2	24'-4 1/16	14'-1 11/16
D	634'-6 13/16	230'-5 5/8	125'-7 15/16	17'-7 13/16	---	---	---	---
E	632'-6 1/2	228'-5 5/16	123'-7 5/8	15'-7 1/2	---	---	---	---
F	630'-6 3/16	226'-5	121'-7 5/16	13'-7 3/16	---	---	---	---
G	628'-5 13/16	224'-4 5/8	119'-6 15/16	11'-6 13/16	---	---	---	---
H	626'-5 1/2	222'-4 5/16	117'-6 5/8	9'-6 1/2	---	---	---	---
J	624'-5 1/8	220'-3 15/16	115'-6 1/4	7'-6 1/8	---	---	---	---
K	622'-4 3/4	218'-3 9/16	113'-5 7/8	5'-5 3/4	---	---	---	---

* MEASURED ℄ BRG. PIER 13 TO END OF GIRDER FOR GIRDER B
** MEASURED ℄ BRG. PIER 14 TO END OF GIRDER FOR GIRDER B
*** MEASURED ℄ BOLTED SPLICE 1 TO END OF GIRDER FOR GIRDER B
**** MEASURED ℄ BRG. PIER 14 TO END OF GIRDER FOR GIRDER B

NOTES:

WORK WITH SHEET 38.

INTERMEDIATE DIAPHRAGMS ARE PLACED 90°00'00" TO GIRDERS D-K AND EXTEND LINEARLY TO GIRDERS A, B, AND C EXCEPT AT BIKE TRAIL BETWEEN PIERS 13 AND 14 WHERE DIAPHRAGMS ARE PLACED 90°00'00" TO GIRDERS A AND C. ANGLE OF CROSS FRAMES TO GIRDERS VARIES FOR GIRDERS A, B, AND C.

ALL DIMENSIONS ARE MEASURED ALONG ℄ GIRDERS AND ACCOUNT FOR THE VERTICAL COMPONENT DUE TO CHANGE IN ELEVATION IN ADDITION TO THE HORIZONTAL COMPONENT MEASURED IN PLAN.

SEE SHEETS 39 TO 49 FOR GIRDER DETAILS, SHEETS 27TO 31 FOR CROSS FRAME DETAILS, SHEET 33 FOR NAVIGATIONAL LIGHT SUPPORT DETAILS AND SHEET 53 FOR PLATE DIAPHRAGM DETAILS.

FOR ADDITIONAL NOTES, SHEAR STUD DETAILS AND FLANGE TO WEB DETAILS, SEE DESIGN SHEETS 27 AND 36.

Δ SEE DESIGN SHEET 50 FOR SPLICE PLATE DETAILS FOR FUTURE OVERHEAD DMS STRUCTURE.

(1) TYPICAL BIKE TRAIL CROSS FRAME. SEE DESIGN SHEET 31 FOR ADDITIONAL INFORMATION.

(2) SIGN TRUSS BIKE TRAIL CROSS FRAME. SEE DESIGN SHEET 29 FOR ADDITIONAL INFORMATION.

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DESIGN FOR VARIABLE SKEW (LA)

629'-2 x VARIES CONTINUOUS WELDED GIRDER BRIDGE W/14' BIKE TRAIL

2-203'-6 END SPANS 222'-2 INTERIOR SPAN

FRAMING PLAN (SEGMENT 5)

STA. 6778+10.58 52' LT. CL I-74 NOVEMBER 2016

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 37 OF 141 FILE NO. 30253 DESIGN NO. 1317