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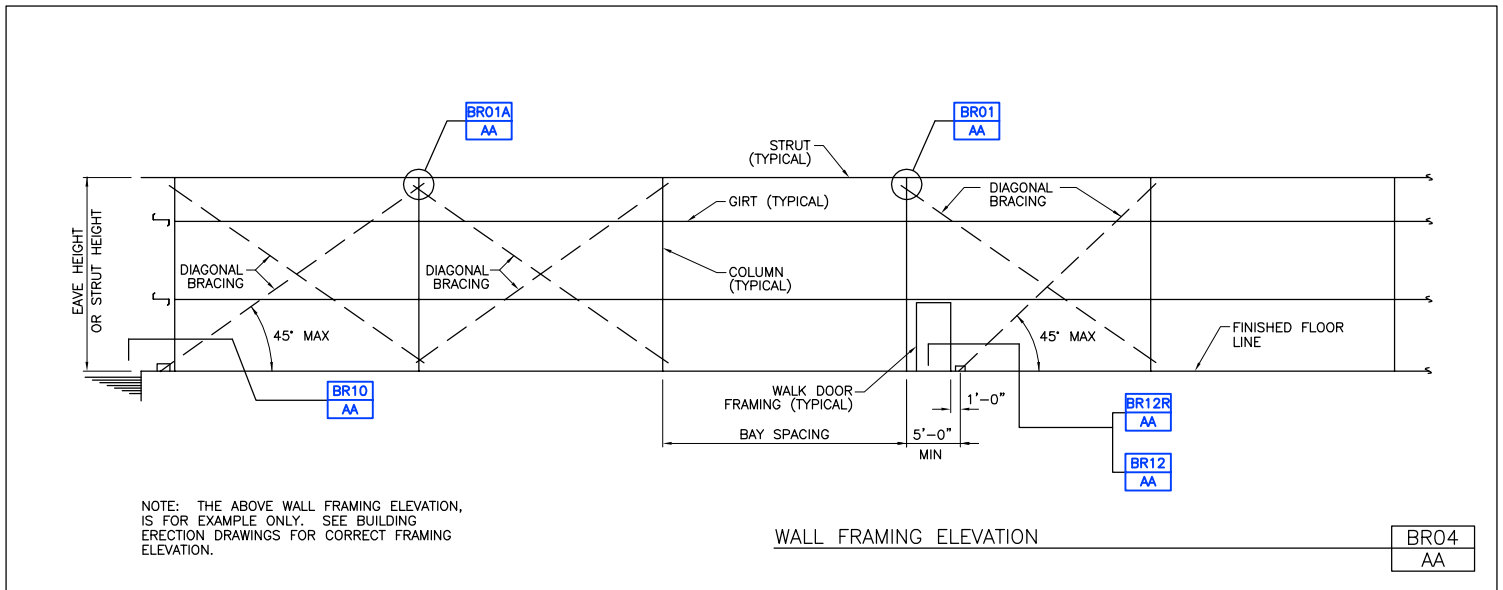
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[OF12/AA, Jamb Base Detail](#)

Wall Framing Elevation

BR04/AA

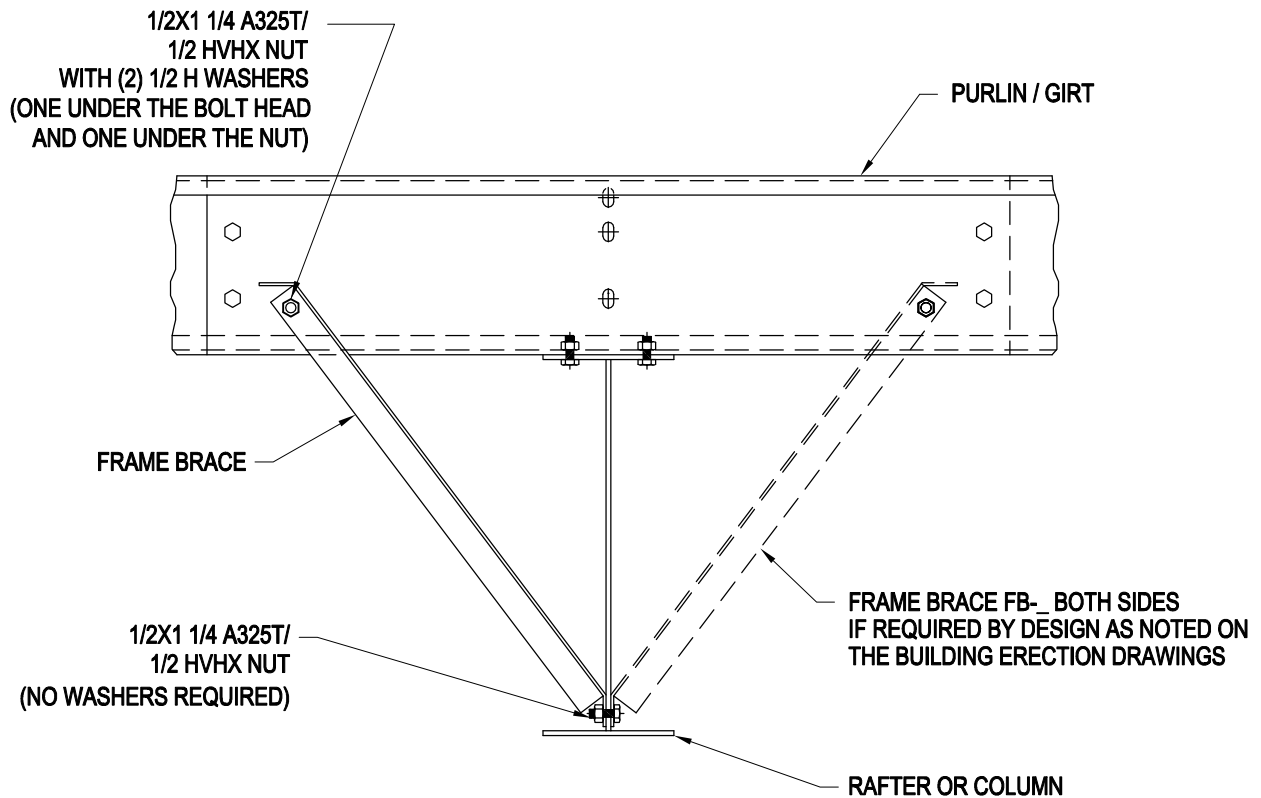


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Frame Brace
For Bypass Purlins/Girts
BR17/AA

**SAFETY PRECAUTION:
WORKERS SHOULD BE TRAINED IN
THE PROPER ERECTION PROCEDURES
FOR ALL JOBS.**



FRAME BRACE
FOR BYPASS PURLINS / GIRTS

| |
|-------------|
| BR17 |
| AA |

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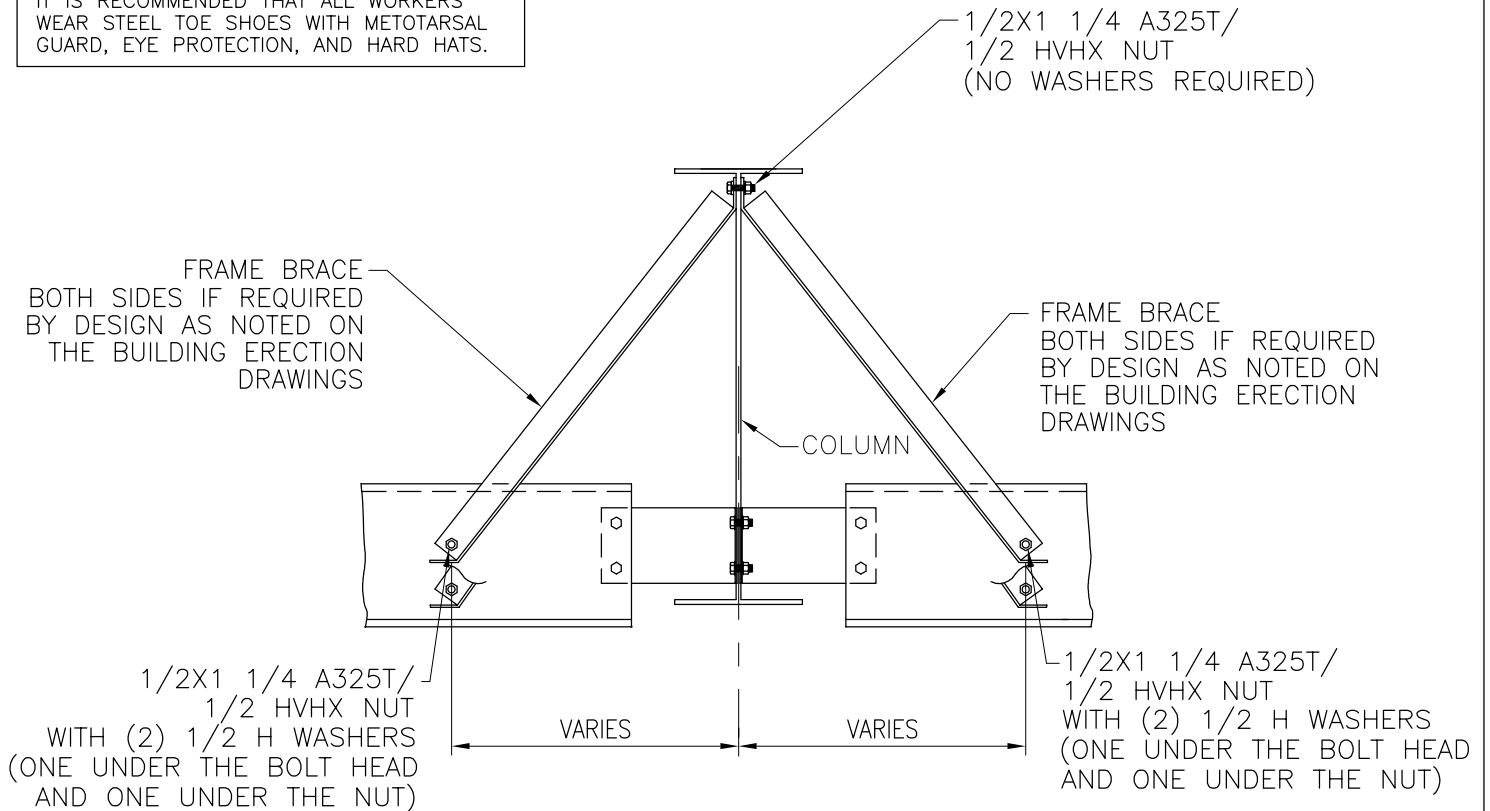
[To Section Index](#)

Frame Brace

Inset

BR17A/AA

SAFETY PRECAUTION:
IT IS RECOMMENDED THAT ALL WORKERS
WEAR STEEL TOE SHOES WITH METOTARSAL
GUARD, EYE PROTECTION, AND HARD HATS.



FRAME BRACE

INSET

BR17A

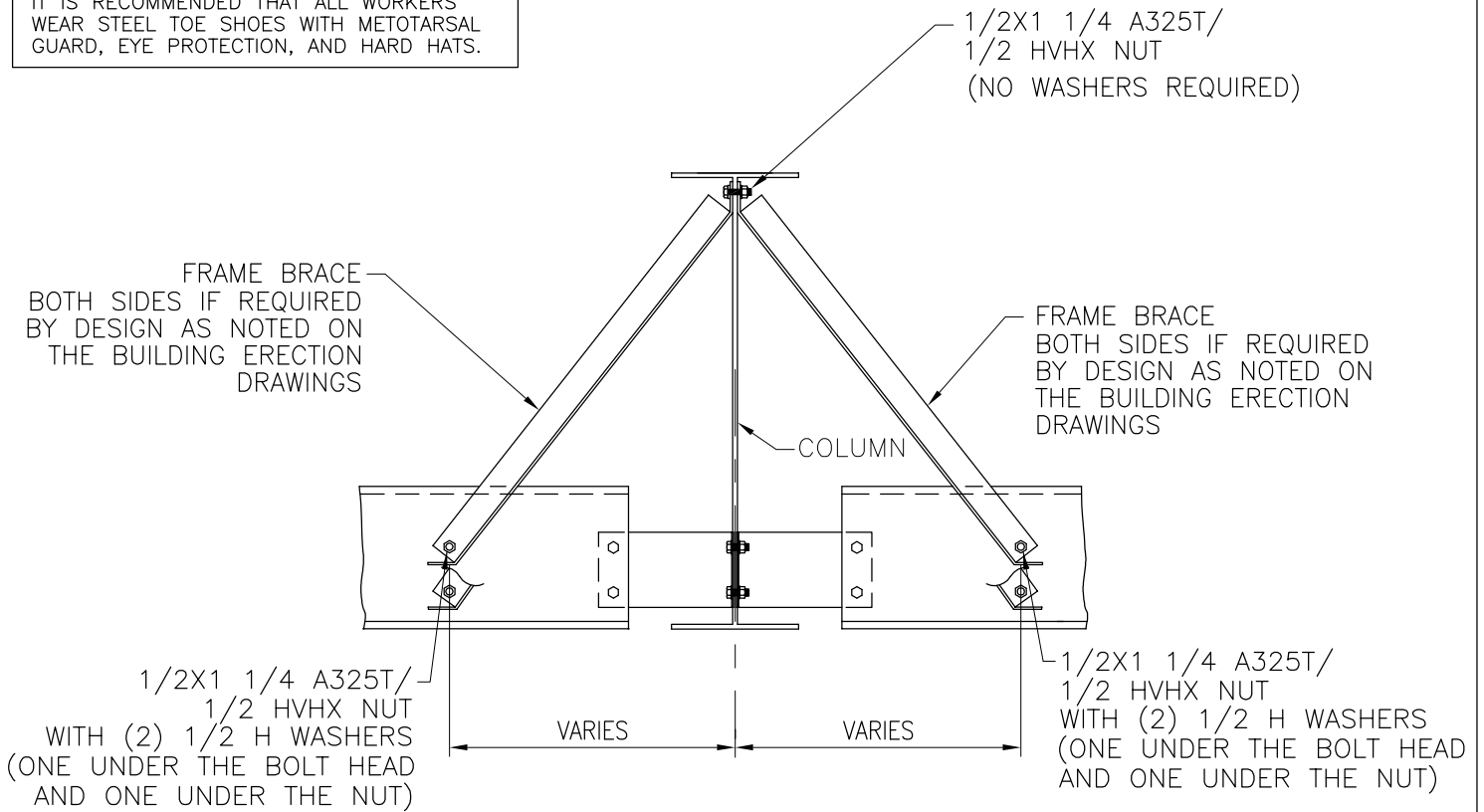
AA

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Frame Brace
Flush
BR17P/AA

SAFETY PRECAUTION:
IT IS RECOMMENDED THAT ALL WORKERS
WEAR STEEL TOE SHOES WITH METOTARSAL
GUARD, EYE PROTECTION, AND HARD HATS.



FRAME BRACE
FLUSH

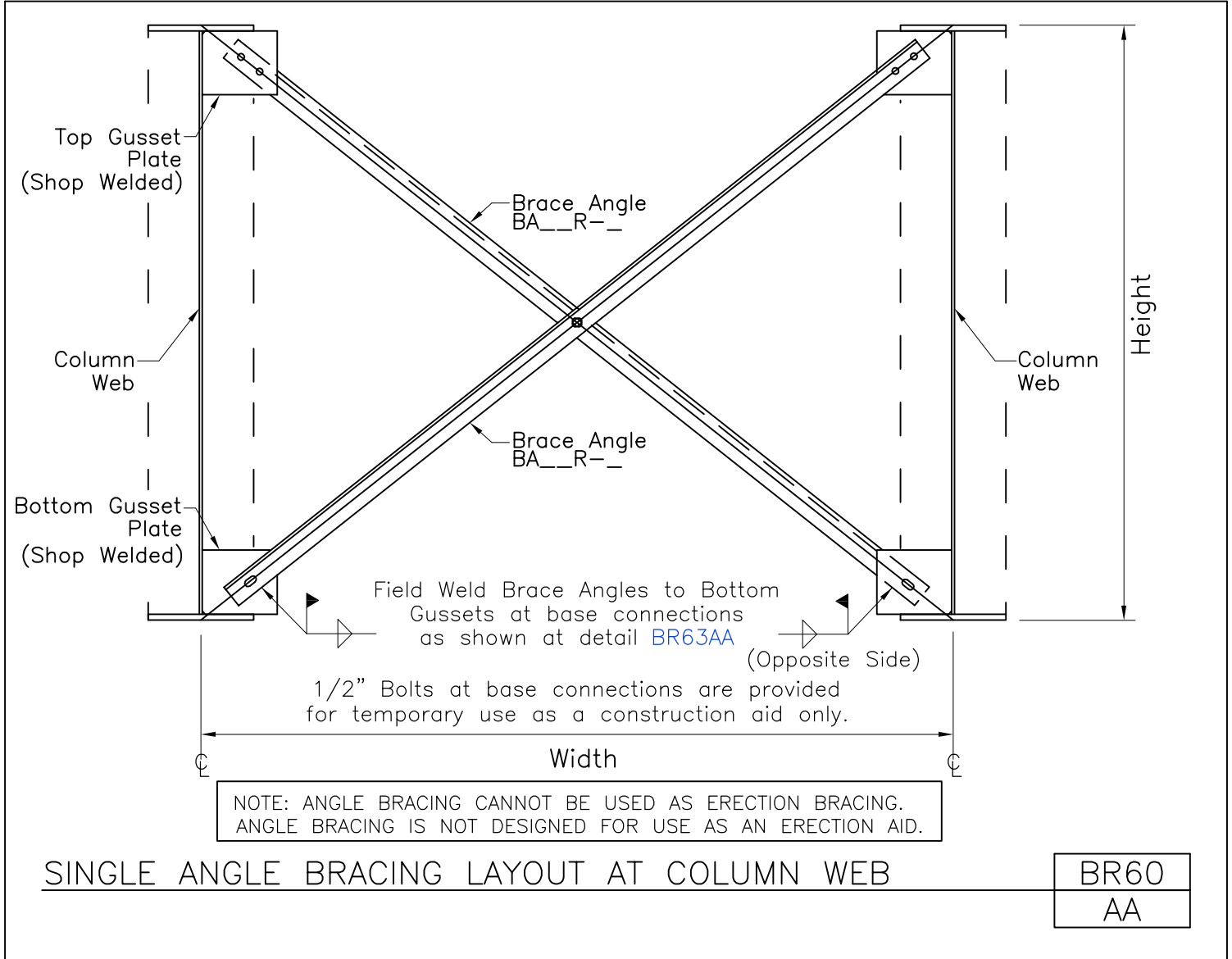
| |
|-------|
| BR17P |
| AA |

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Single Angle Bracing Layout at Column Web

BR60/AA

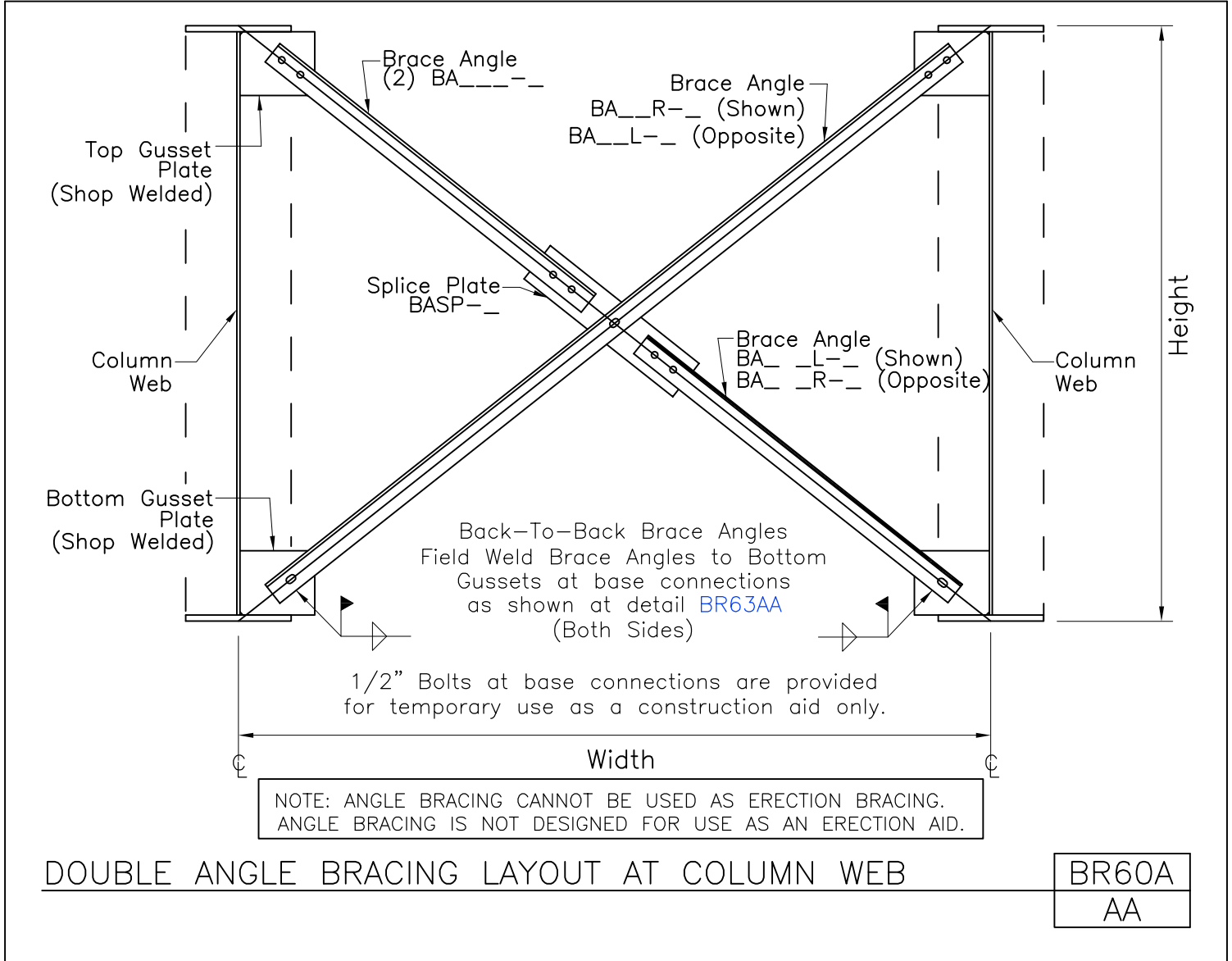


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Double Angle Bracing Layout at Column Web

BR60A/AA

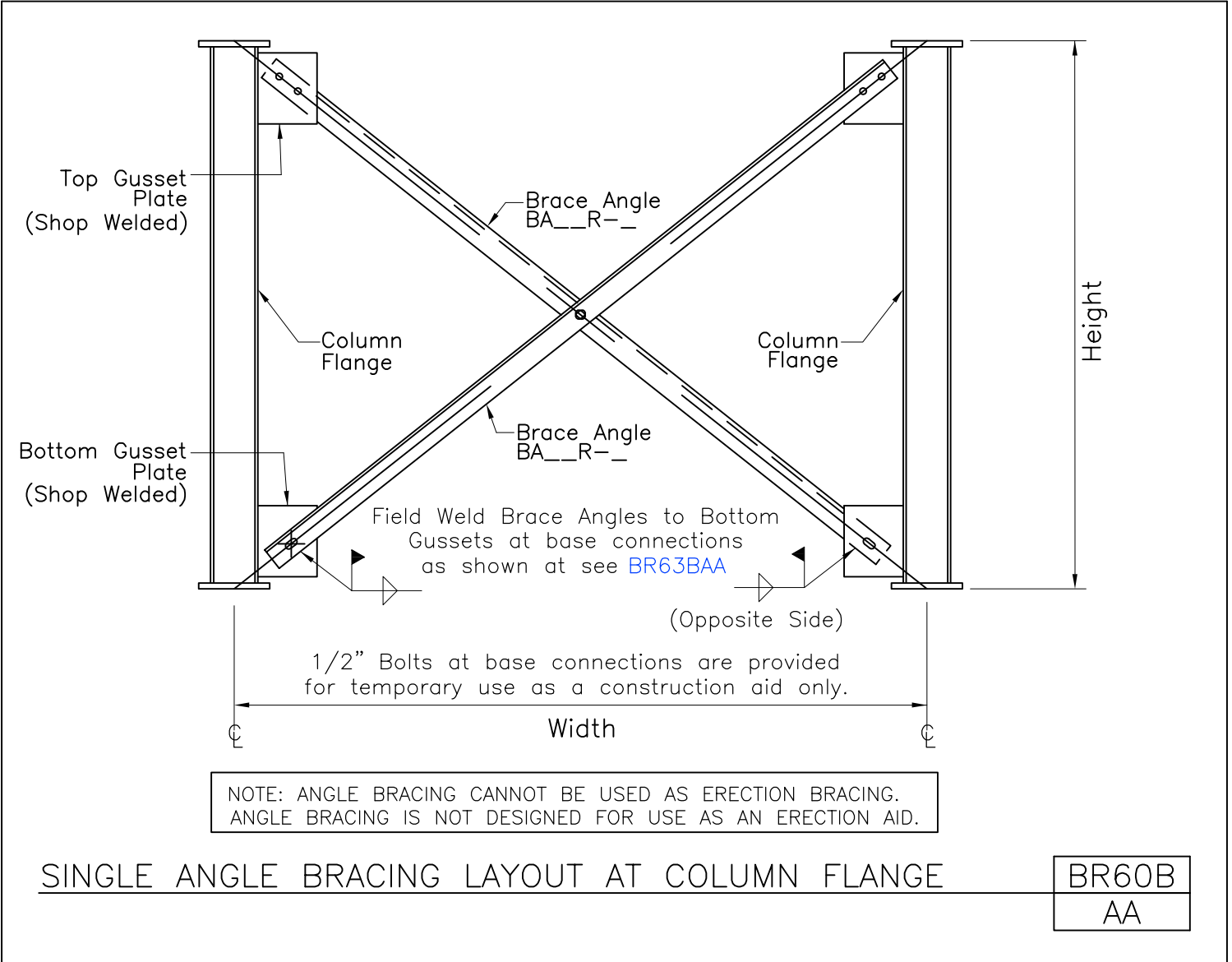


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Single Angle Bracing Layout at Column Flange

BR60B/AA

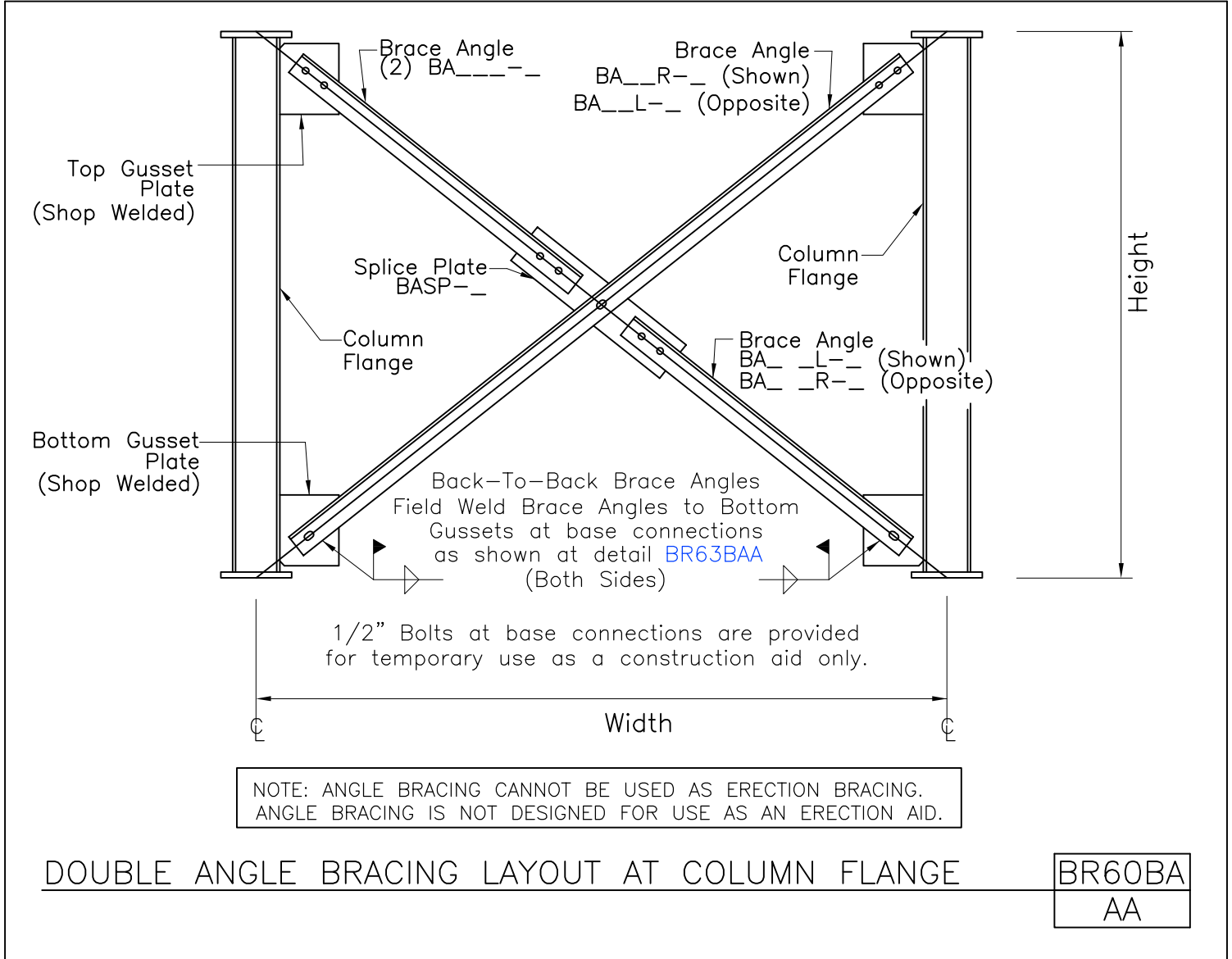


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Double Angle Bracing Layout at Column Flange

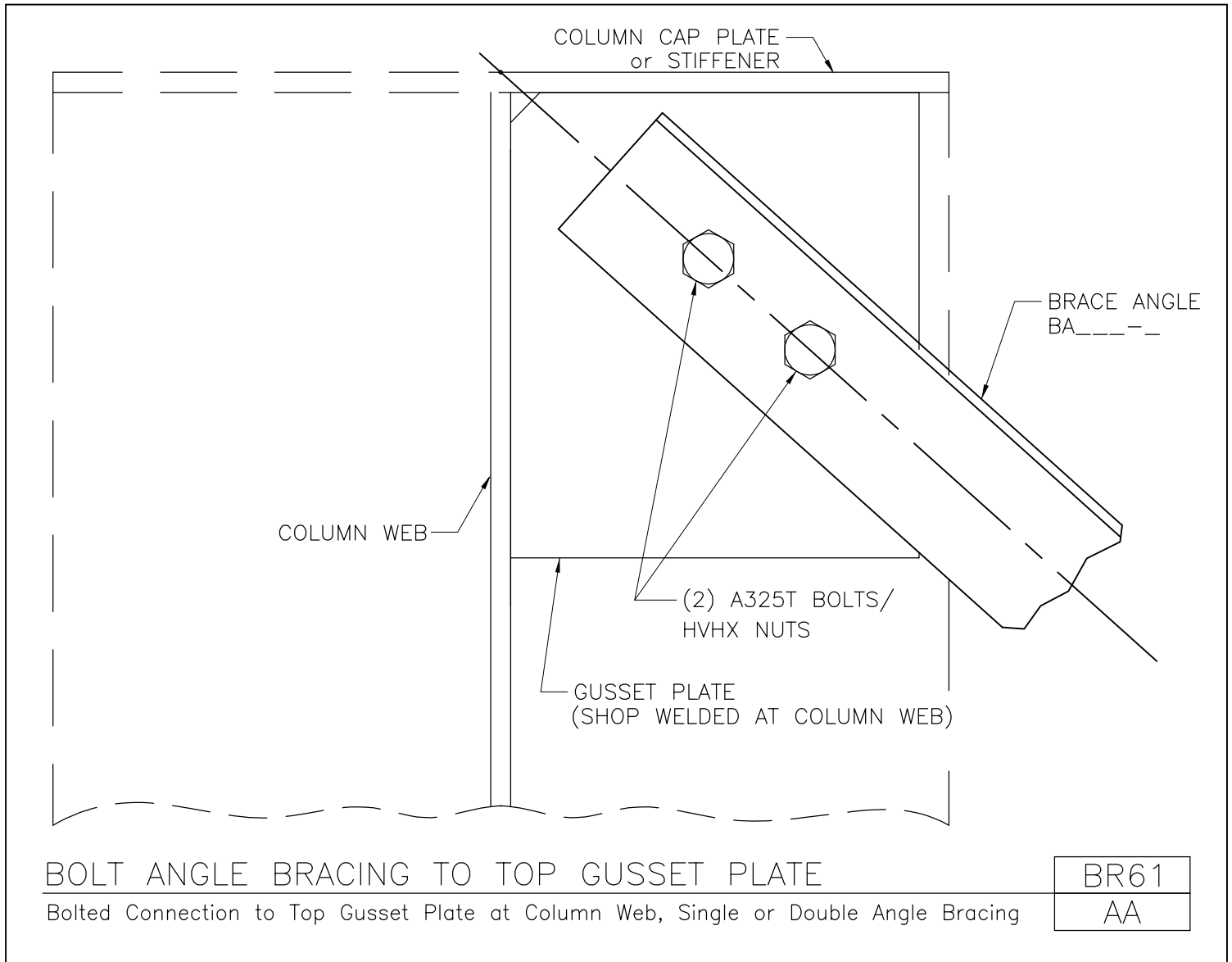
BR60BA/AA



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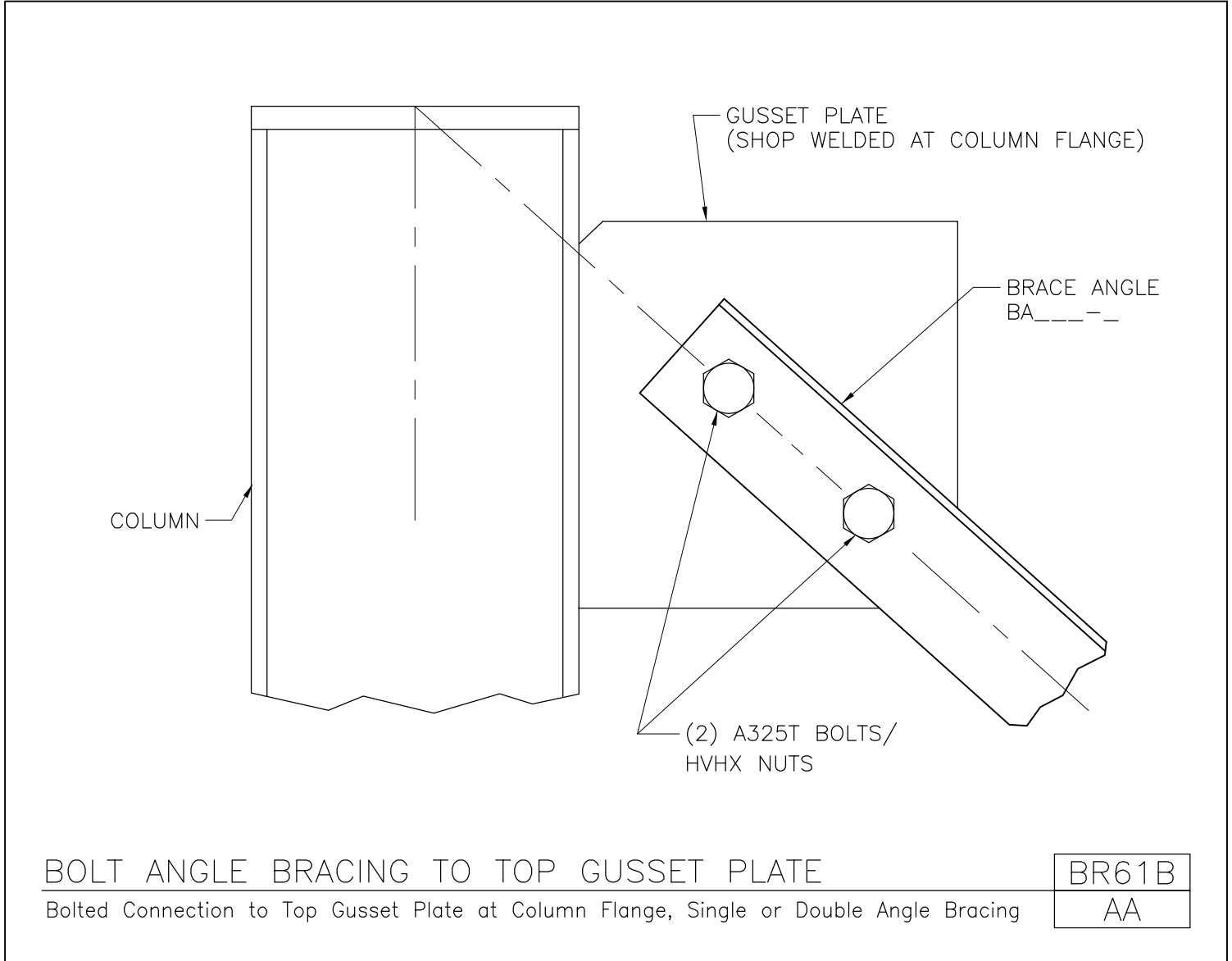
Bolt Angle Bracing to Top Gusset Plate
 Bolted Connection to Top Gusset Plate at Column Web, Single or Double Angle Bracing
 BR61/AA



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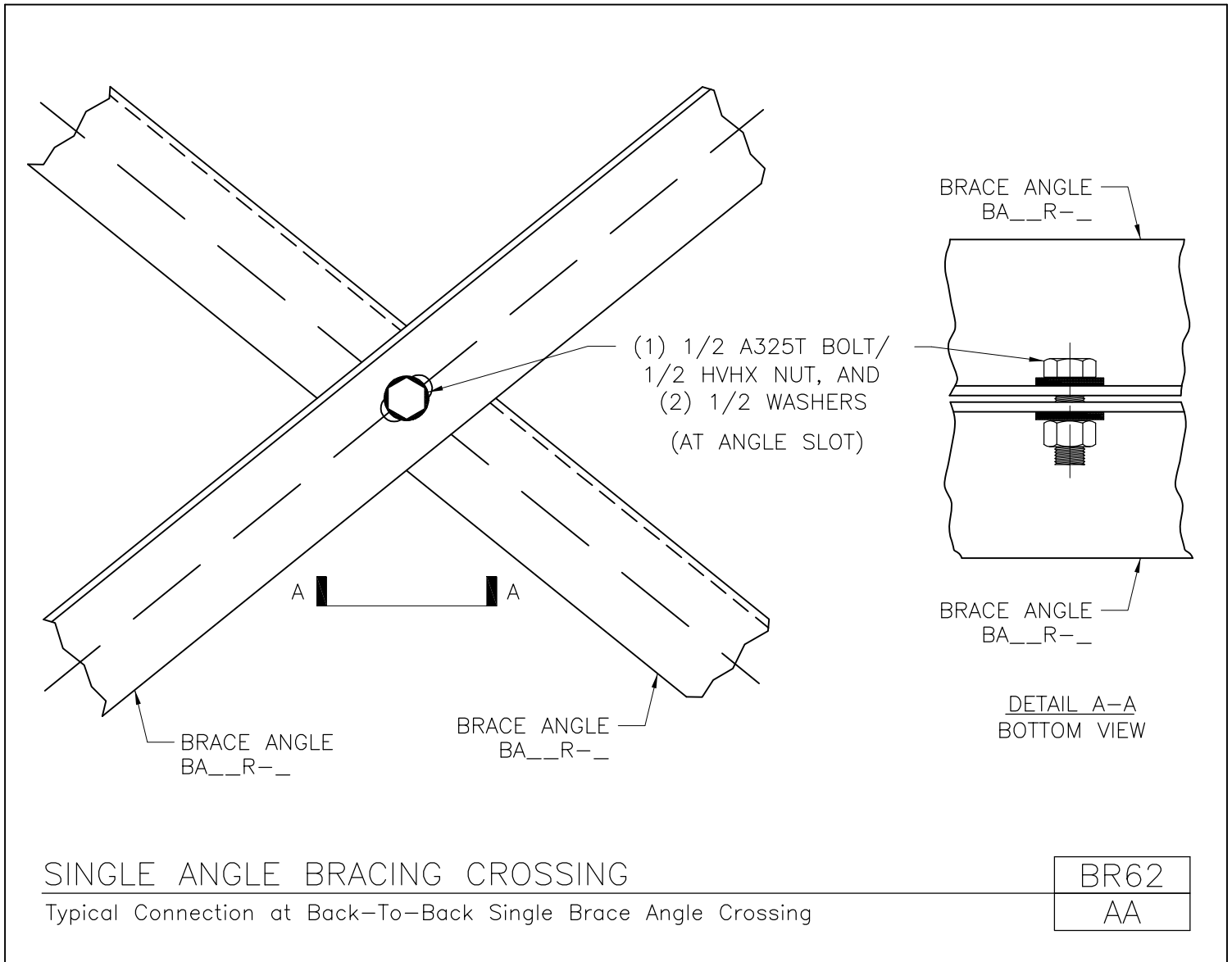
Bolt Angle Bracing to Top Gusset Plate
 Bolted Connection to Top Gusset Plate at Column Flange, Single or Double Angle Bracing
 BR61B/AA



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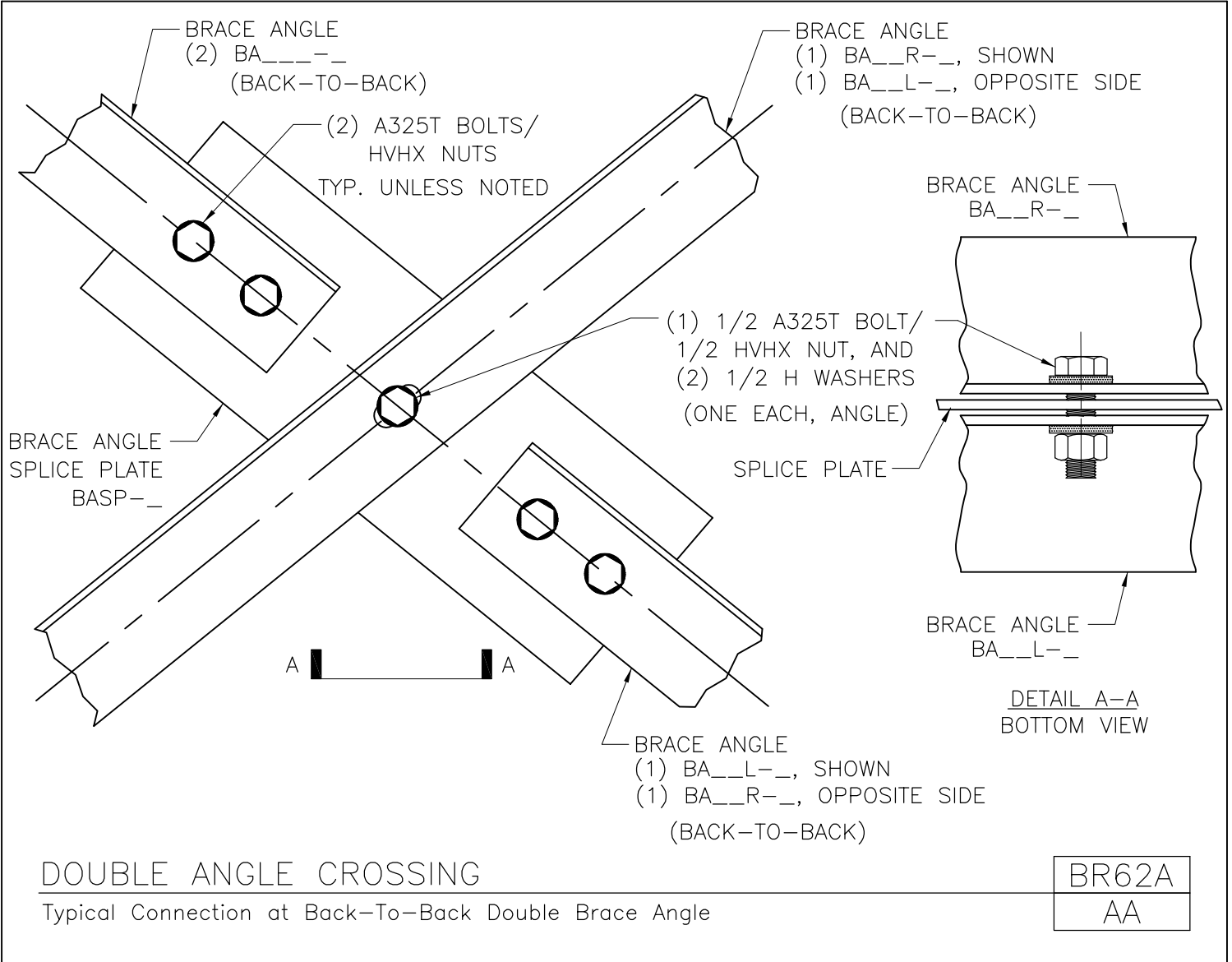
Single Angle Bracing Crossing
Typical Connection at Back-to-Back Single Brace Angle Crossing
BR62/AA



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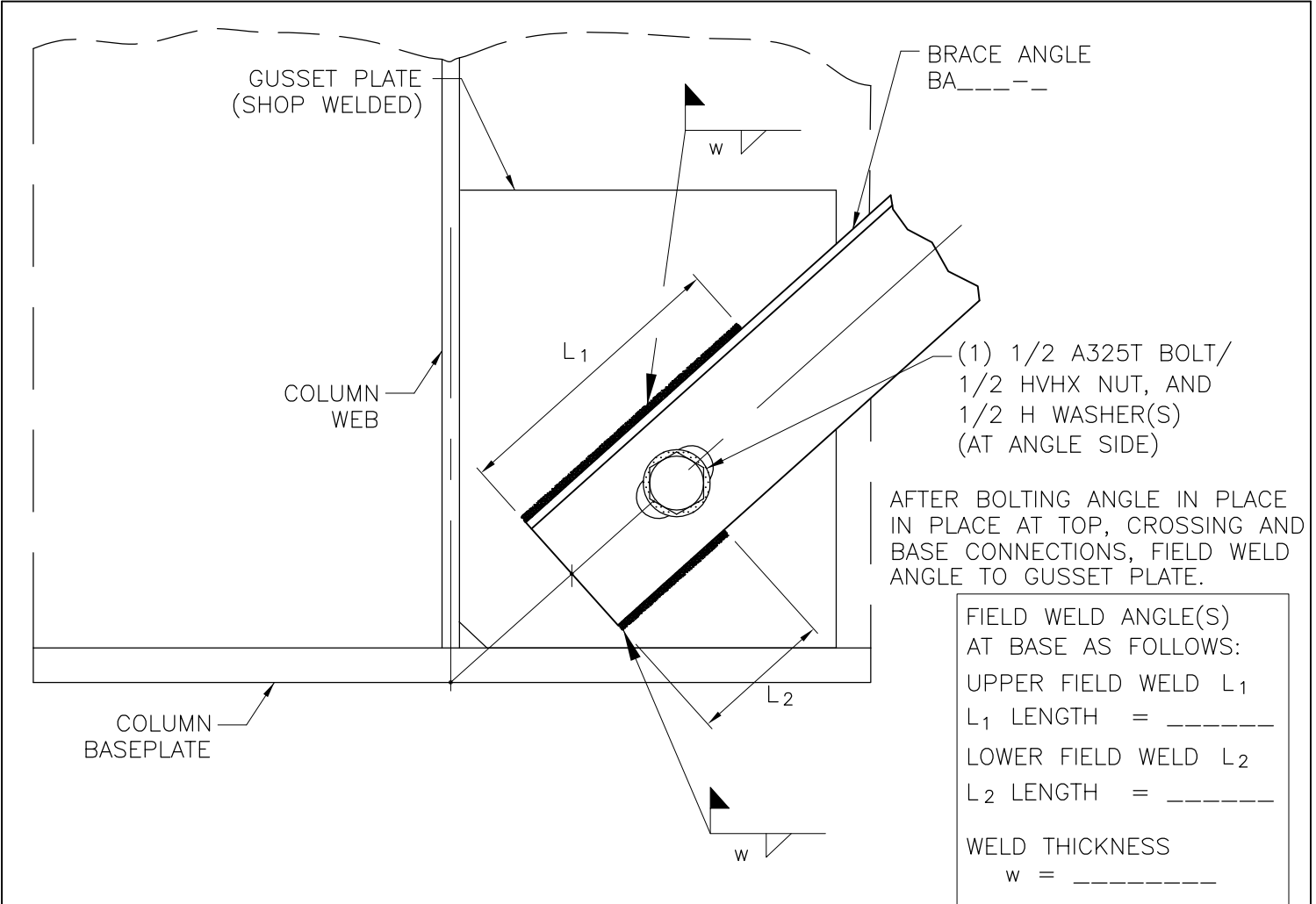
Double Angle Crossing
Typical Connection at Back-to-Back Double Brace Angle
BR62A/AA



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Field Weld Angle Bracing at Column Base
Brace Angle to Bottom Gusset at Col. Web - Field Weld Angles
BR63/AA



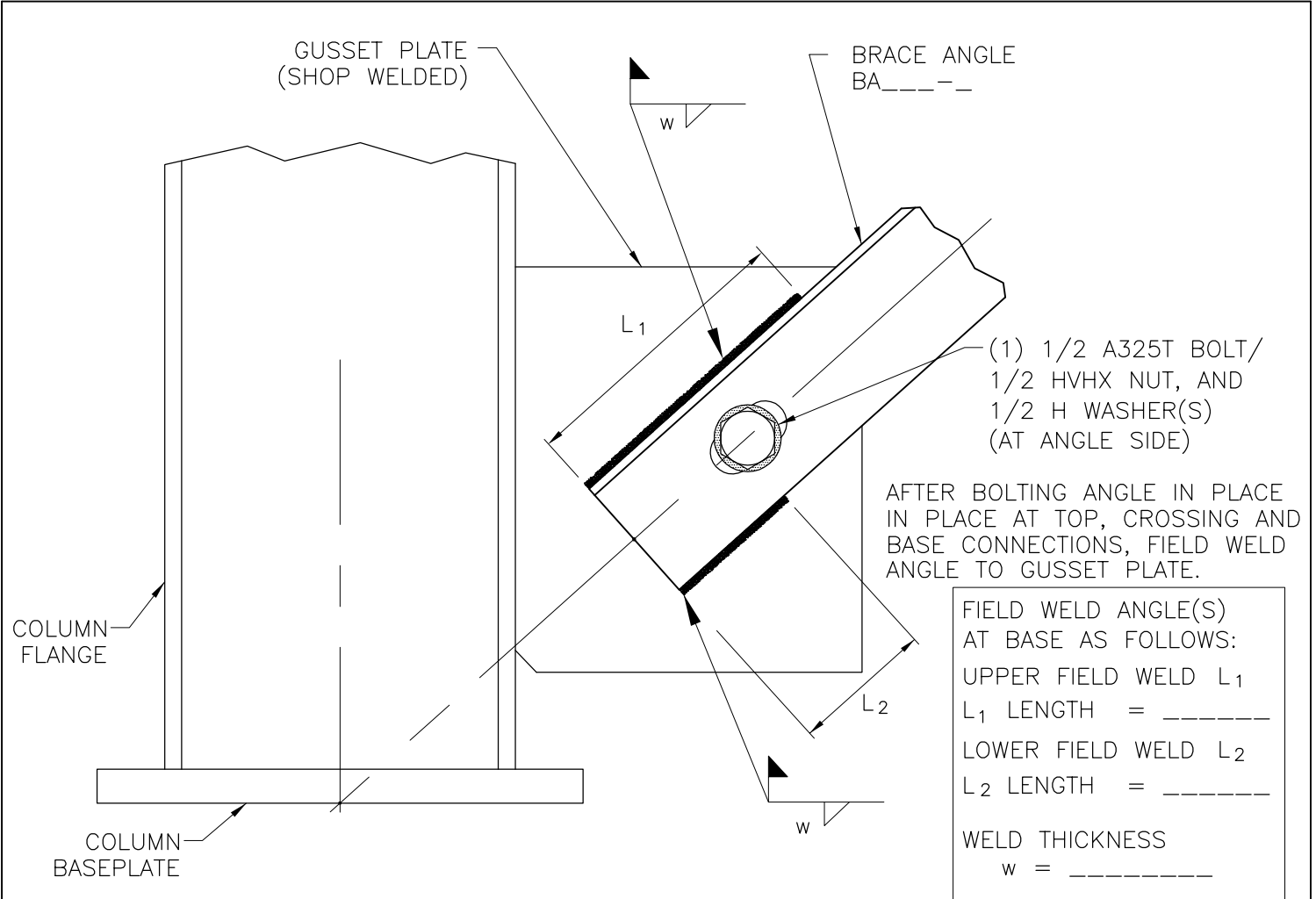
FIELD WELD ANGLE BRACING AT COLUMN BASE

Brace Angle to Bottom Gusset Plate at Column Web
Field Weld angles at each side of bottom gusset with double/ back-to-back angles.

| |
|------|
| BR63 |
| AA |

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Field Weld Angle Bracing at Column Base
Brace Angle to Gusset Plate at Column Flange - Field Weld Angles
BR63B/AA



FIELD WELD ANGLE BRACING AT COLUMN BASE

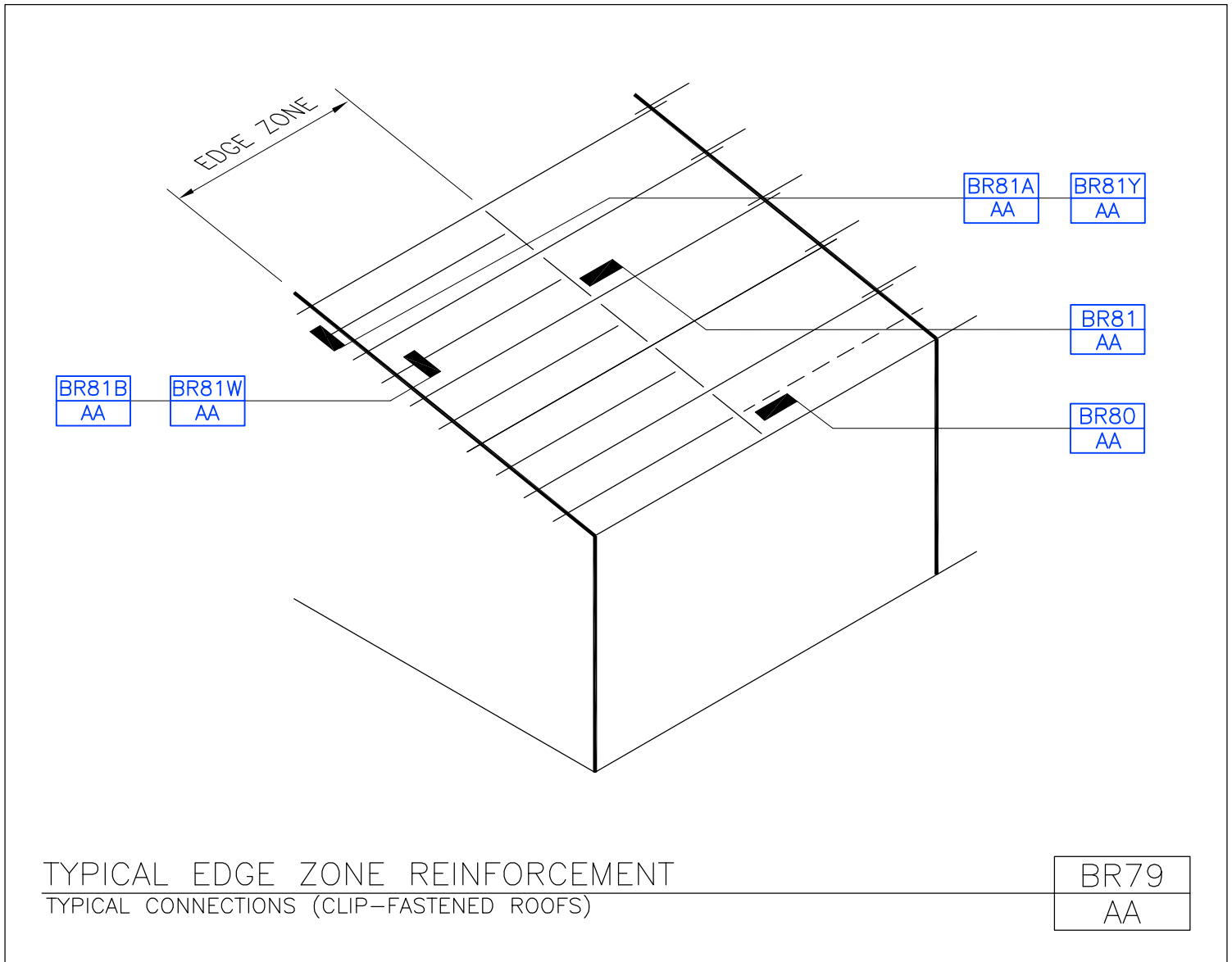
Brace Angle to Gusset Plate at Column Flange
Field Weld angles at each side of bottom gusset with double/ back-to-back angles.

| |
|-------|
| BR63B |
| AA |

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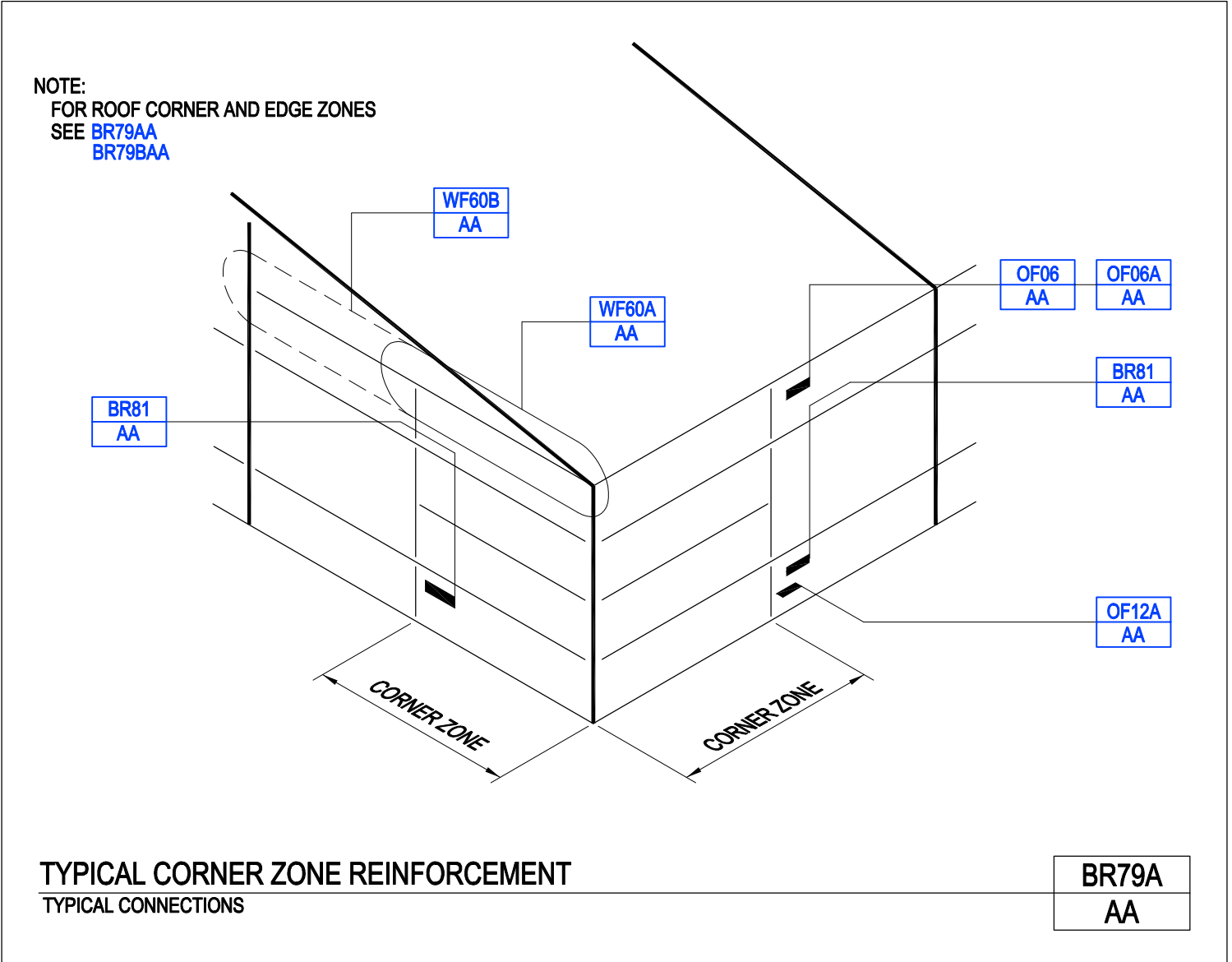
Typical Edge Zone Reinforcement
Typical Connection (Clip-Fastened Roof)
BR79/AA



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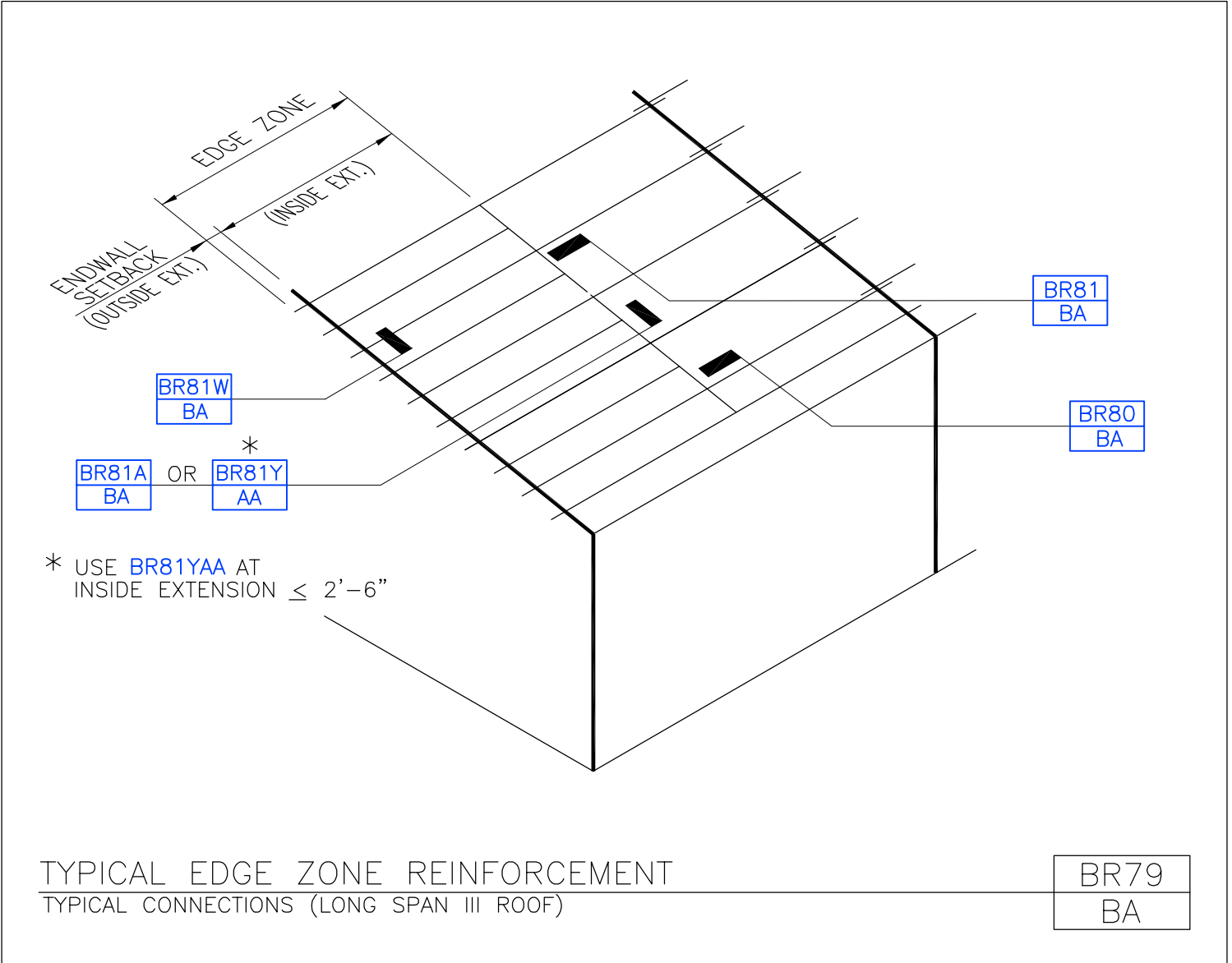
Typical Corner Zone Reinforcement
Typical Connections
BR79A/AA



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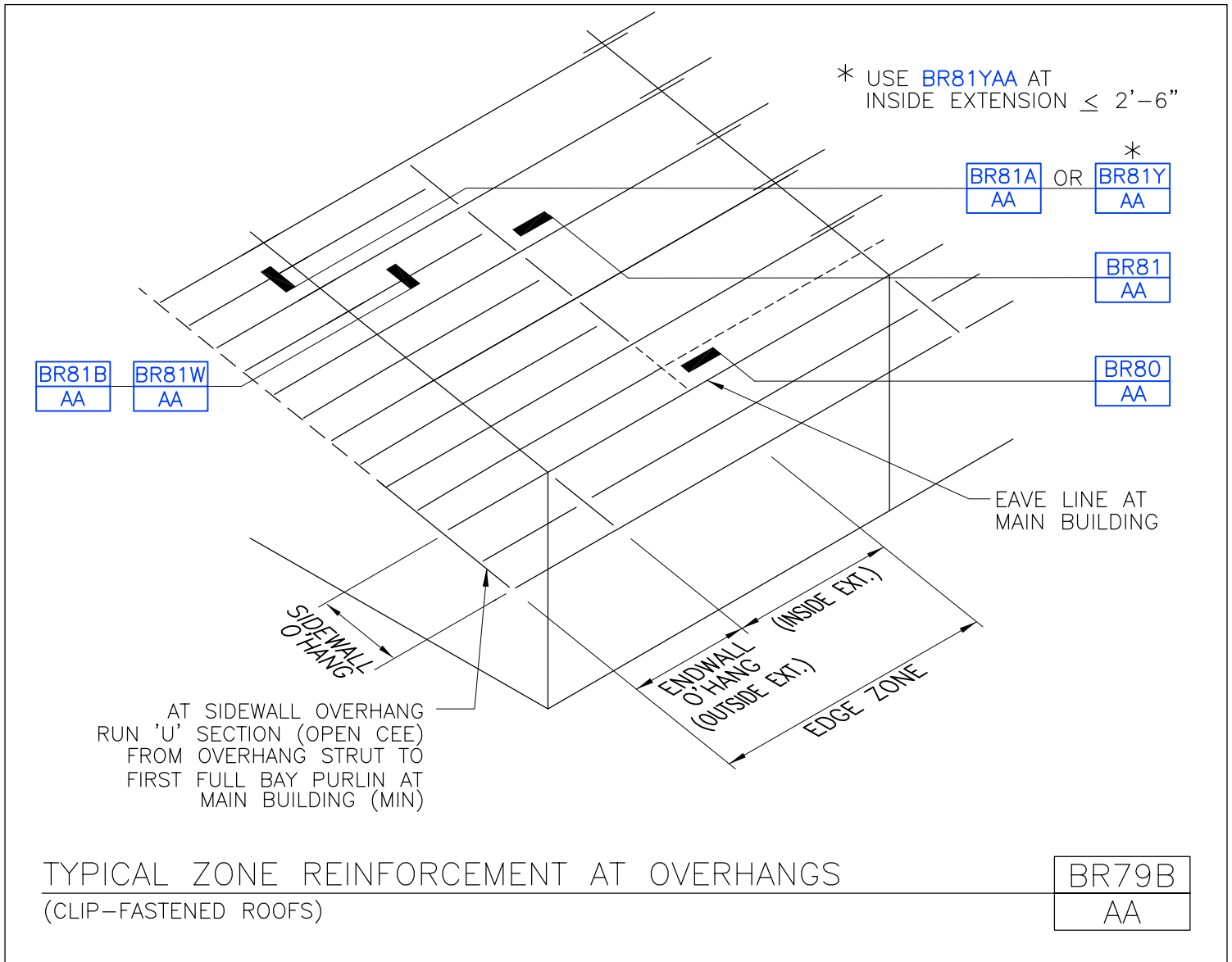
Typical Edge Zone Reinforcement
Typical Connections (Long Span III Roof)
BR79/BA



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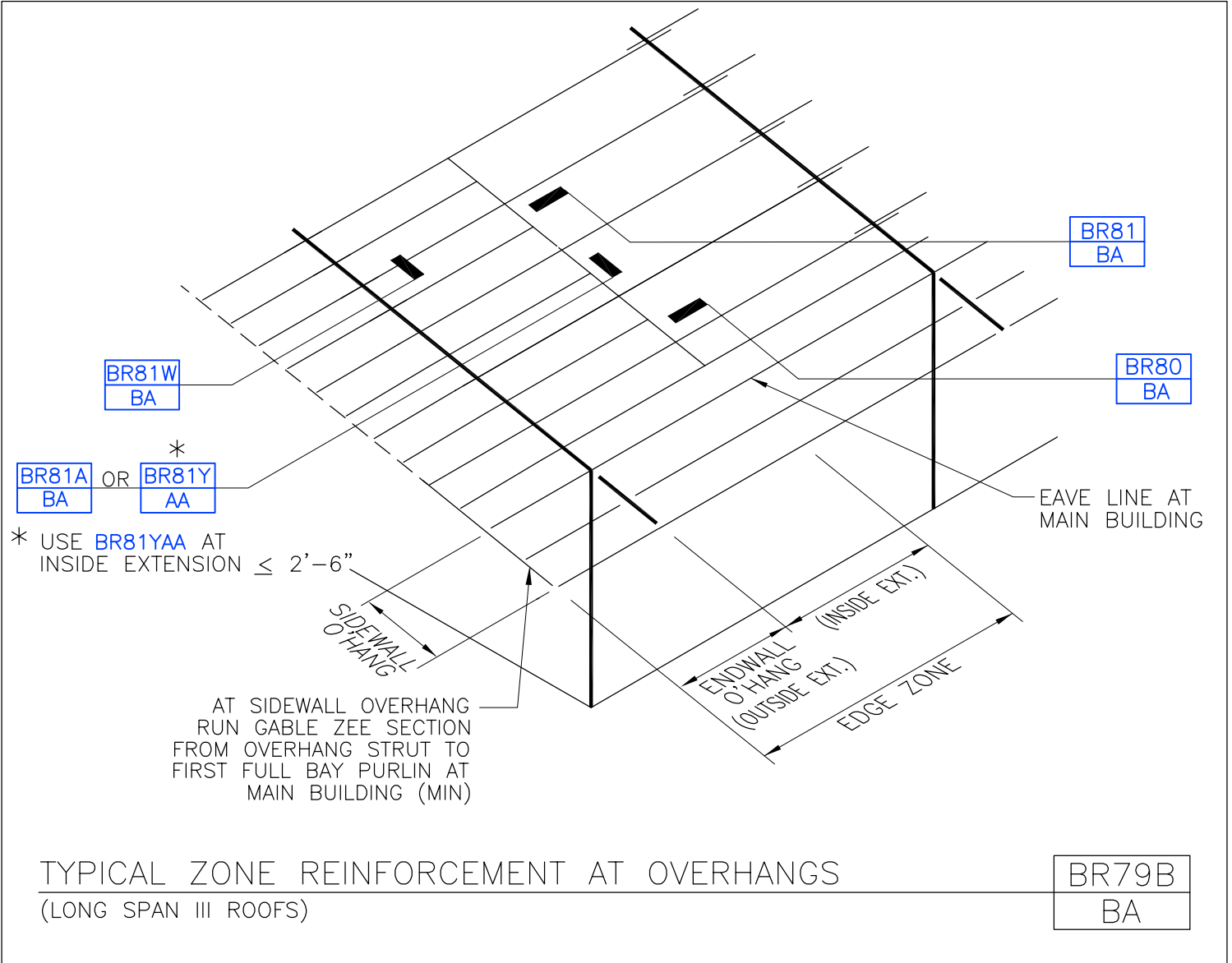
Typical Zone Reinforcement at Overhangs
(Clip-Fastened Roofs)
BR79B/AA



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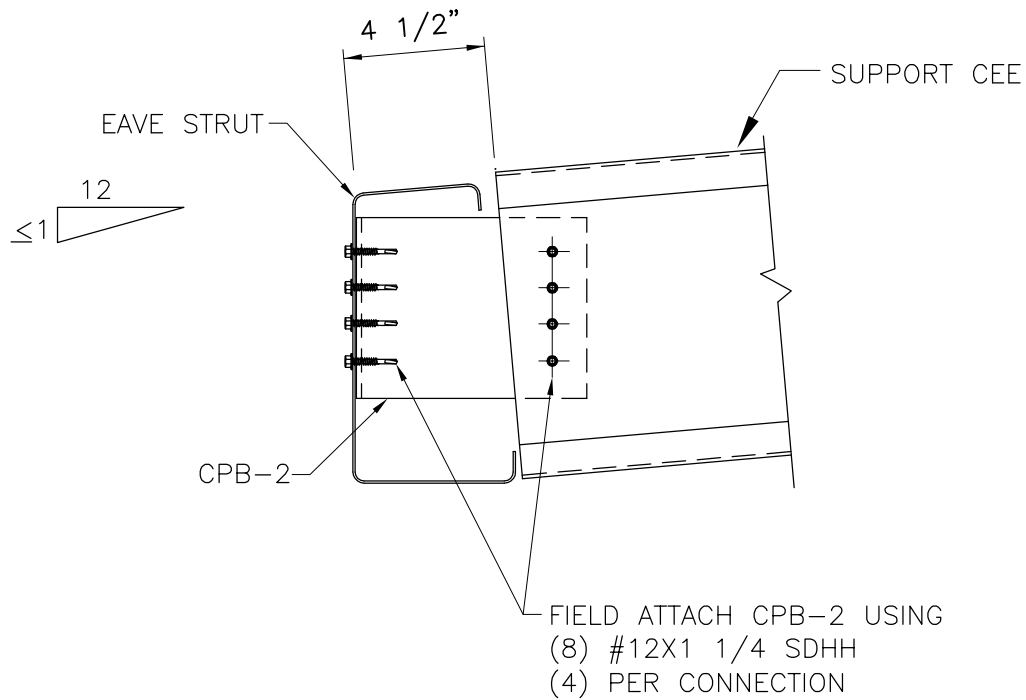
Typical Zone Reinforcement at Overhangs
(Long Span III Roofs)
BR79B/BA



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Edge Zone or Corner Zone Eave Strut Connection
Roof Slope $\leq 1:12$ (Clip-Fastened Roofs)
BR80/AA



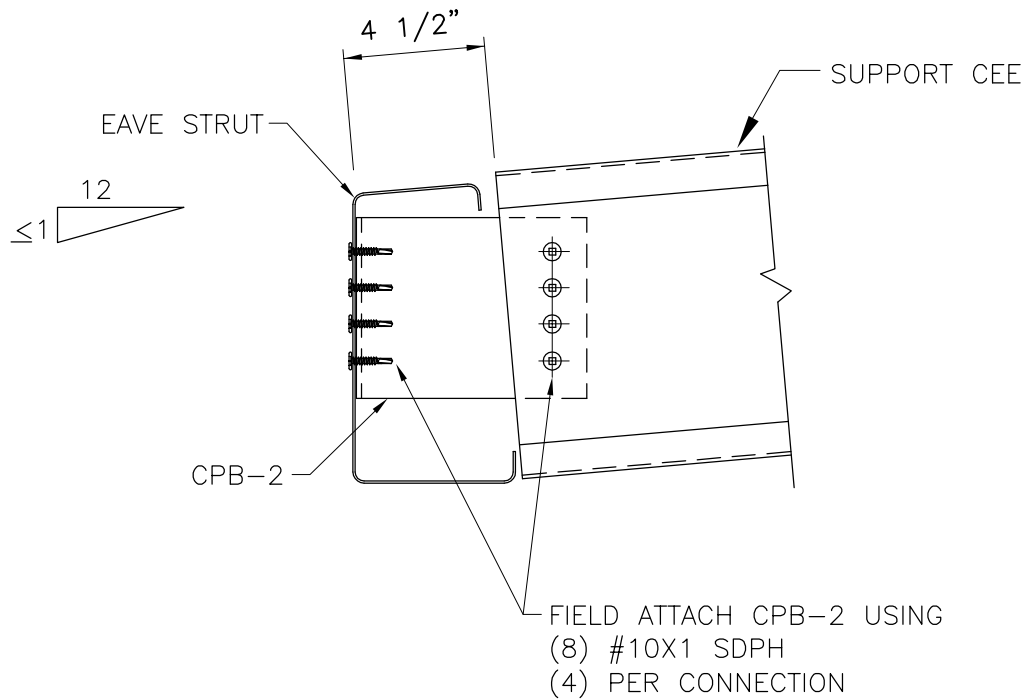
EDGE ZONE OR CORNER ZONE EAVE STRUT CONNECTION
ROOF SLOPE $\leq 1:12$ (CLIP-FASTENED ROOFS)

| |
|------|
| BR80 |
| AA |

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Edge Zone or Corner Zone Eave Strut Connection
Roof Slope $\leq 1:12$ (Clip Fastened Roofs)
BR80A/AA



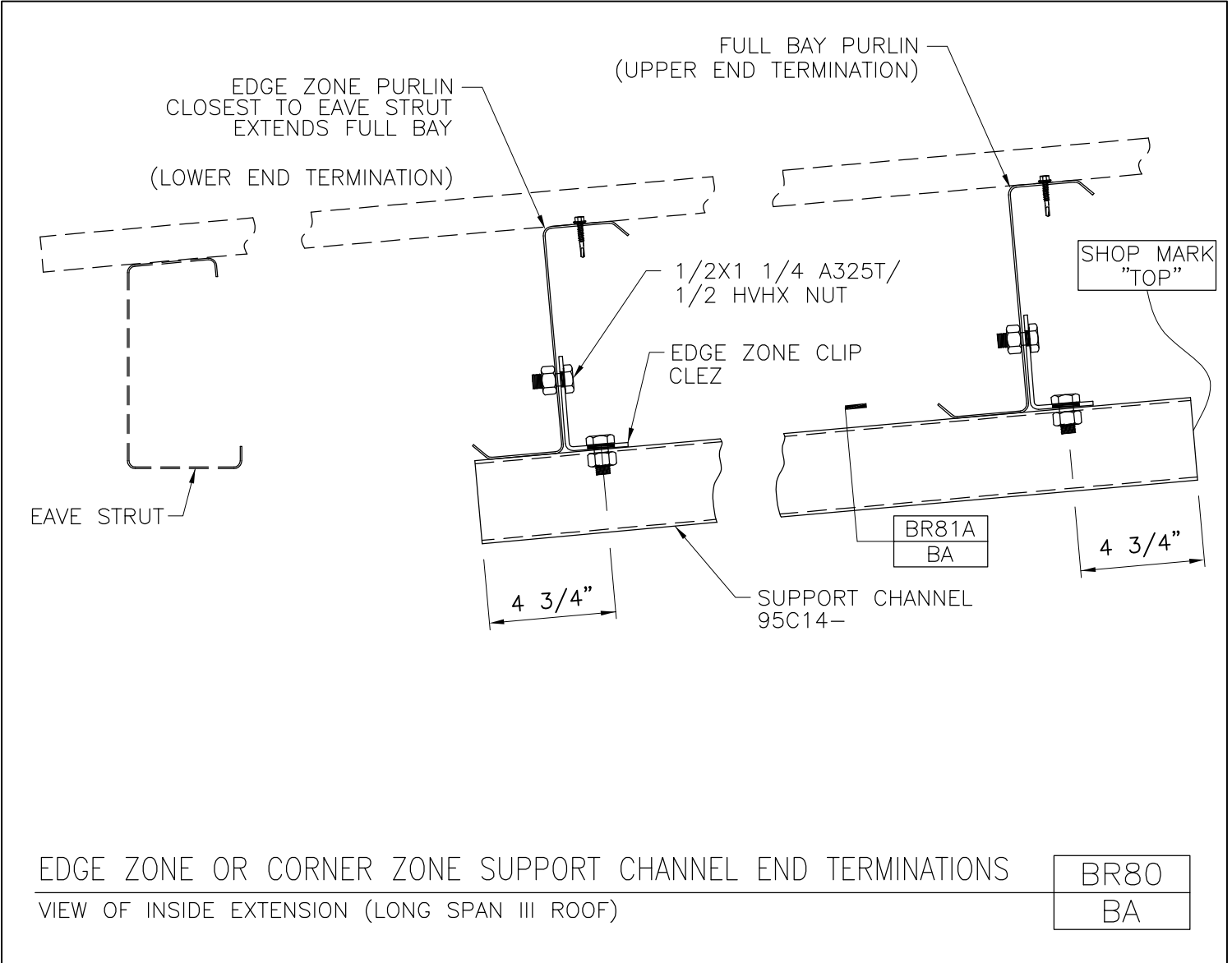
EDGE ZONE OR CORNER ZONE EAVE STRUT CONNECTION
ROOF SLOPE $\leq 1:12$ (CLIP-FASTENED ROOFS)

| |
|-------|
| BR80A |
| AA |

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Edge Zone or Corner Zone Support Channel End Terminations
View of Inside Extension (Long Span III Roof)
BR80/BA

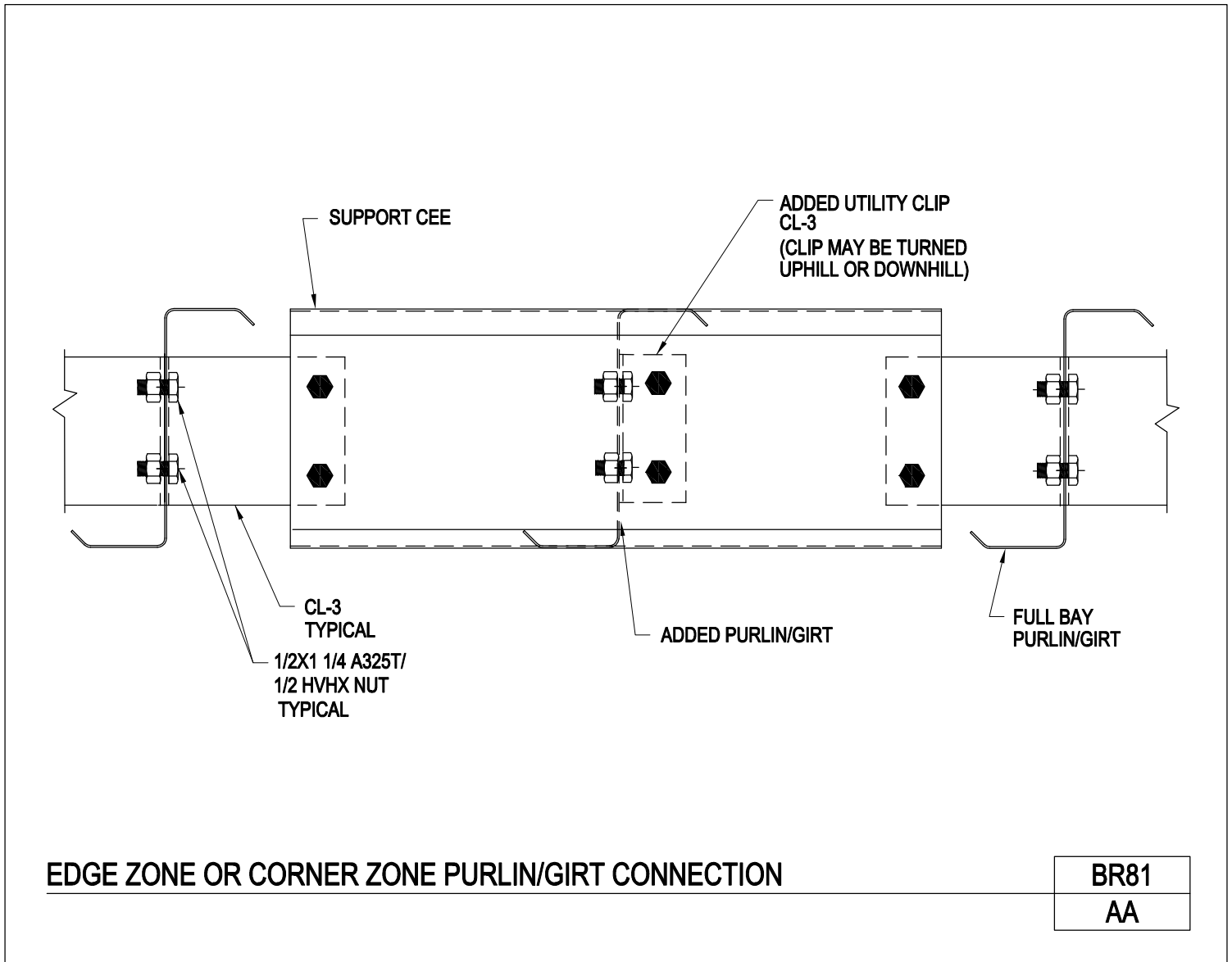


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Edge Zone or Corner Zone Purlin/Girt Connection

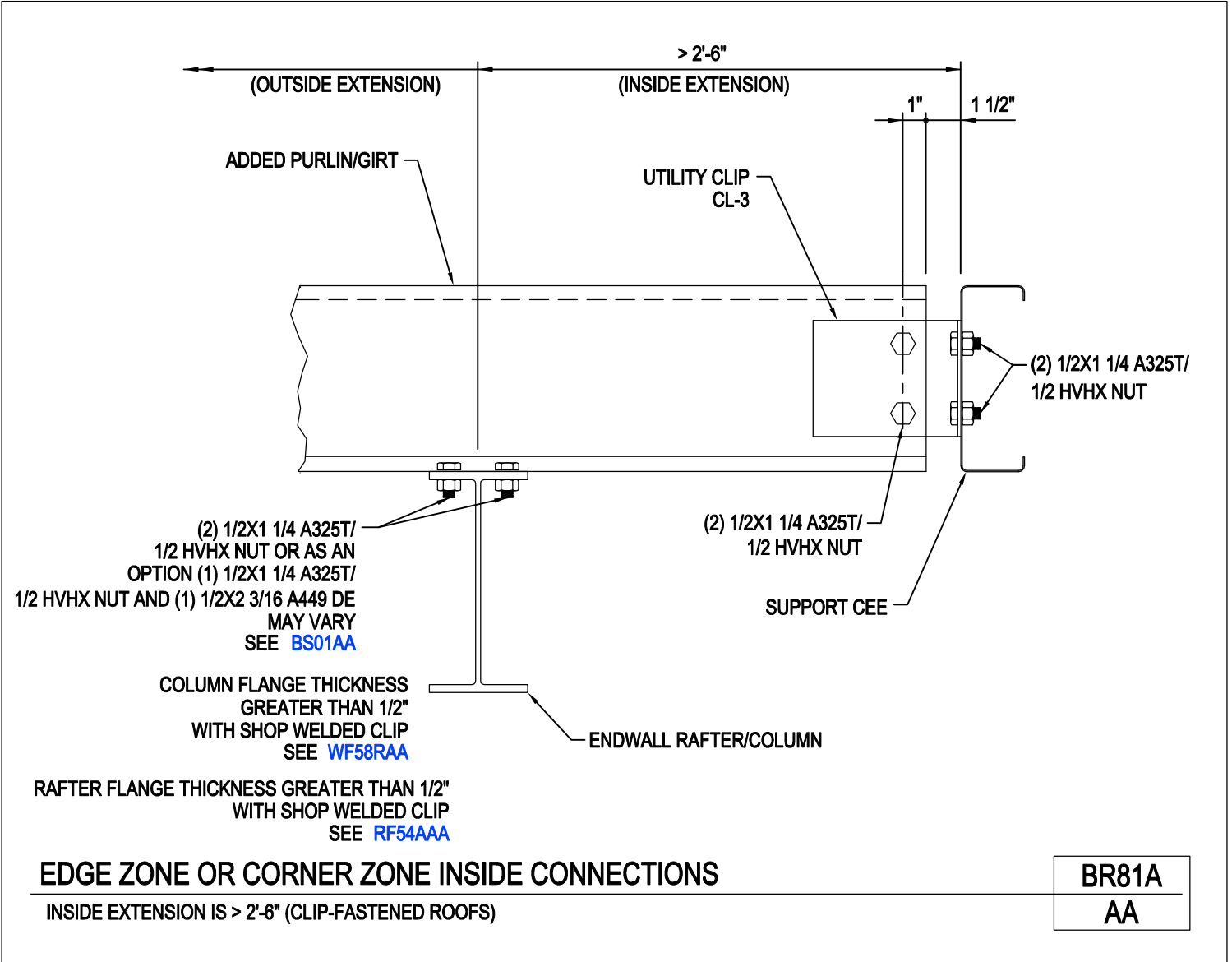
BR81/AA



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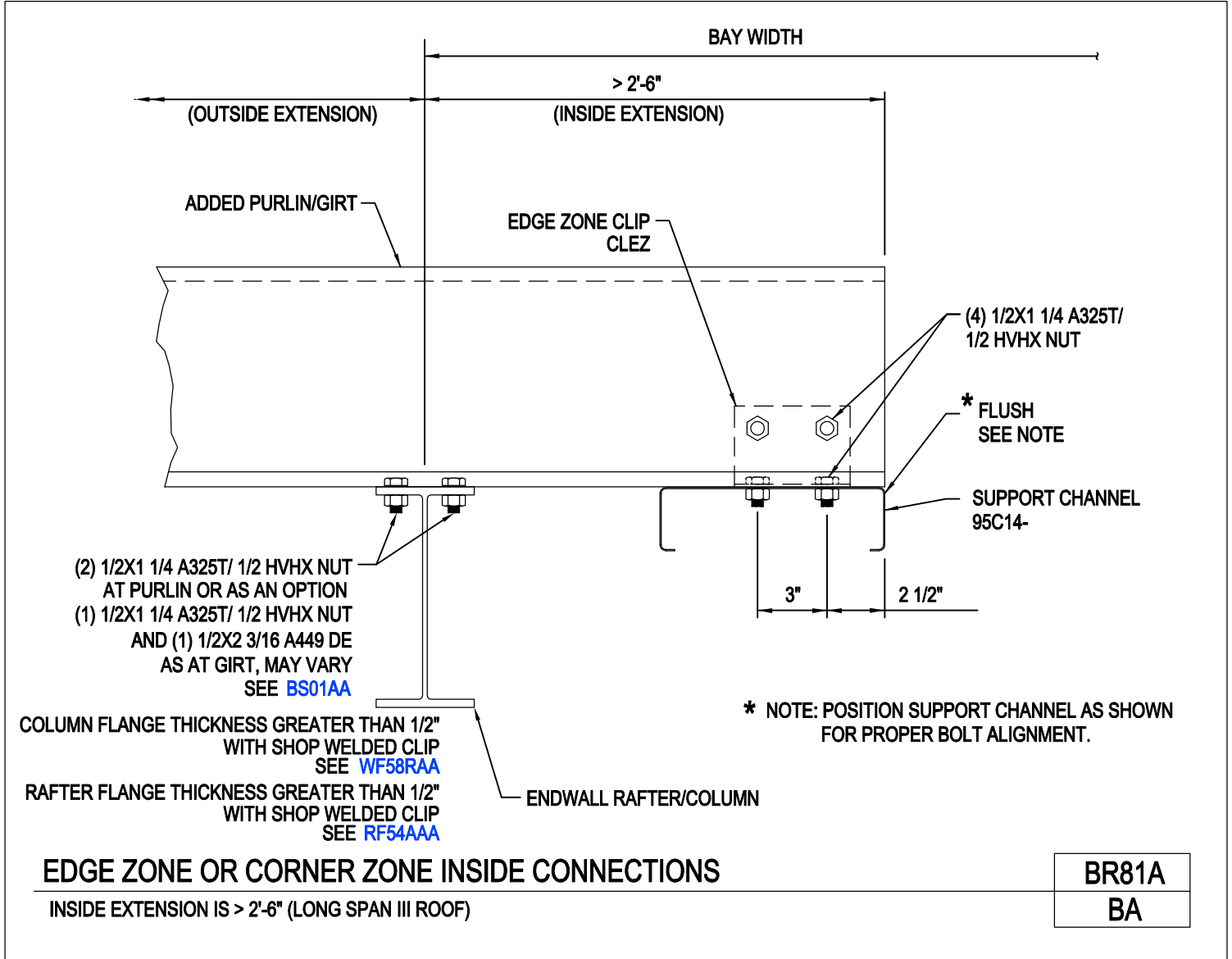
Edge Zone or Corner Zone Inside Connections
 Inside Extension is > 2'-6" (Clip-Fastened Roofs)
 BR81A/AA



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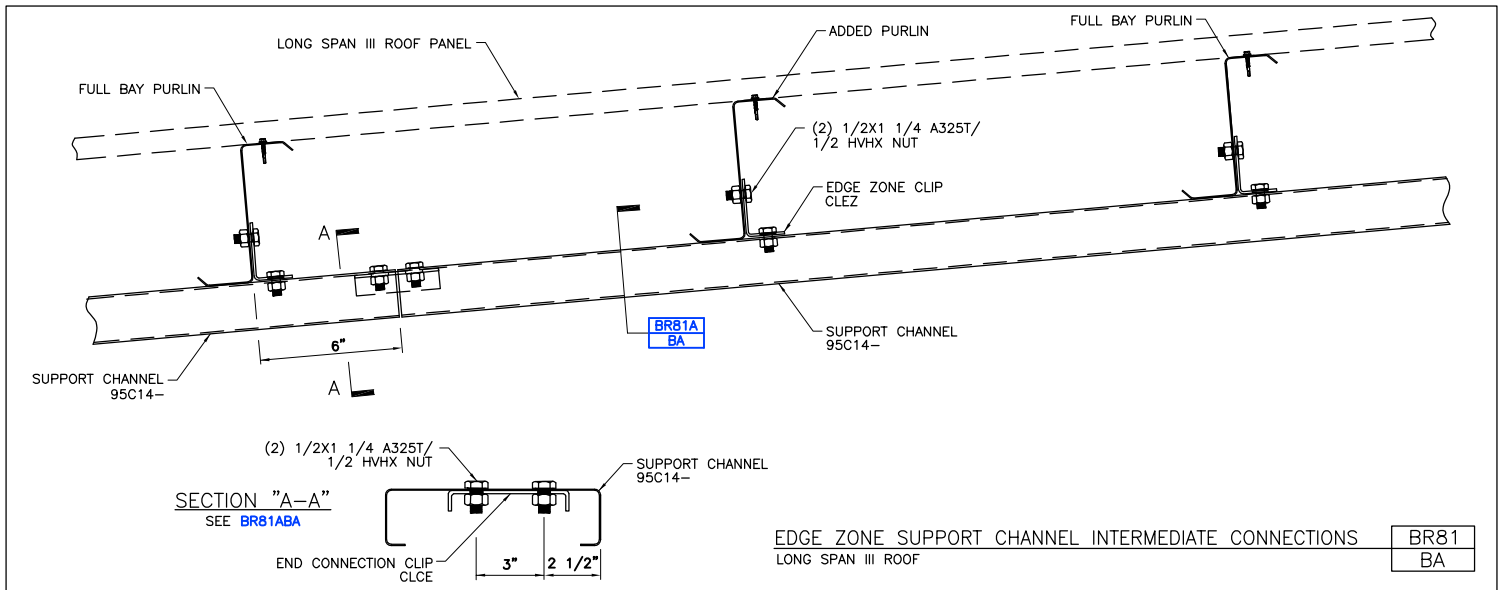
Edge Zone or Corner Zone Inside Connections
 Inside Extensions Is > 2'-6" (Long Span III Roofs)
 BR81A/BA



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Edge Zone Support Channel Intermediate Connections
Long Span III Roof
BR81/BA

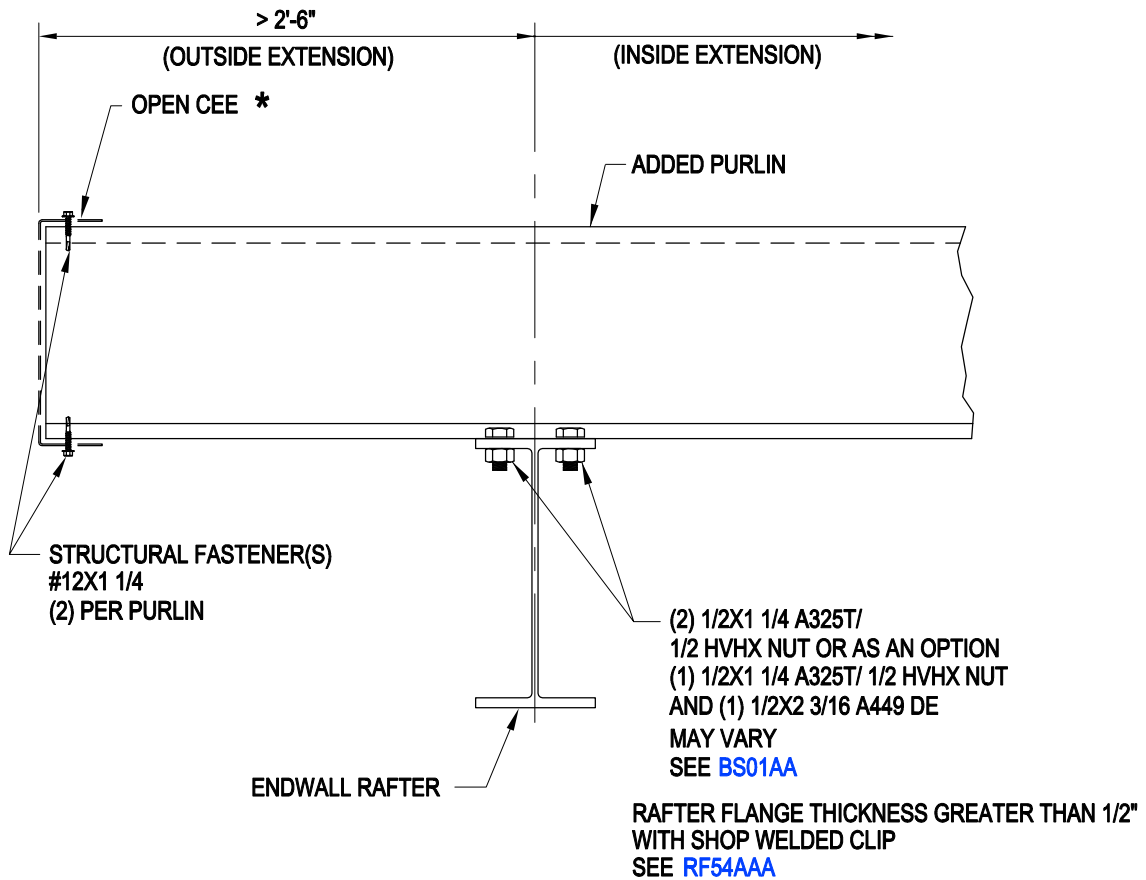


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Edge Zone or Corner Zone with Open Cee
Outside Extension or Overhang > 2'-6" (Clip-Fastened Roofs)
BR81B/AA

* WHEN REQUIRED BY DESIGN



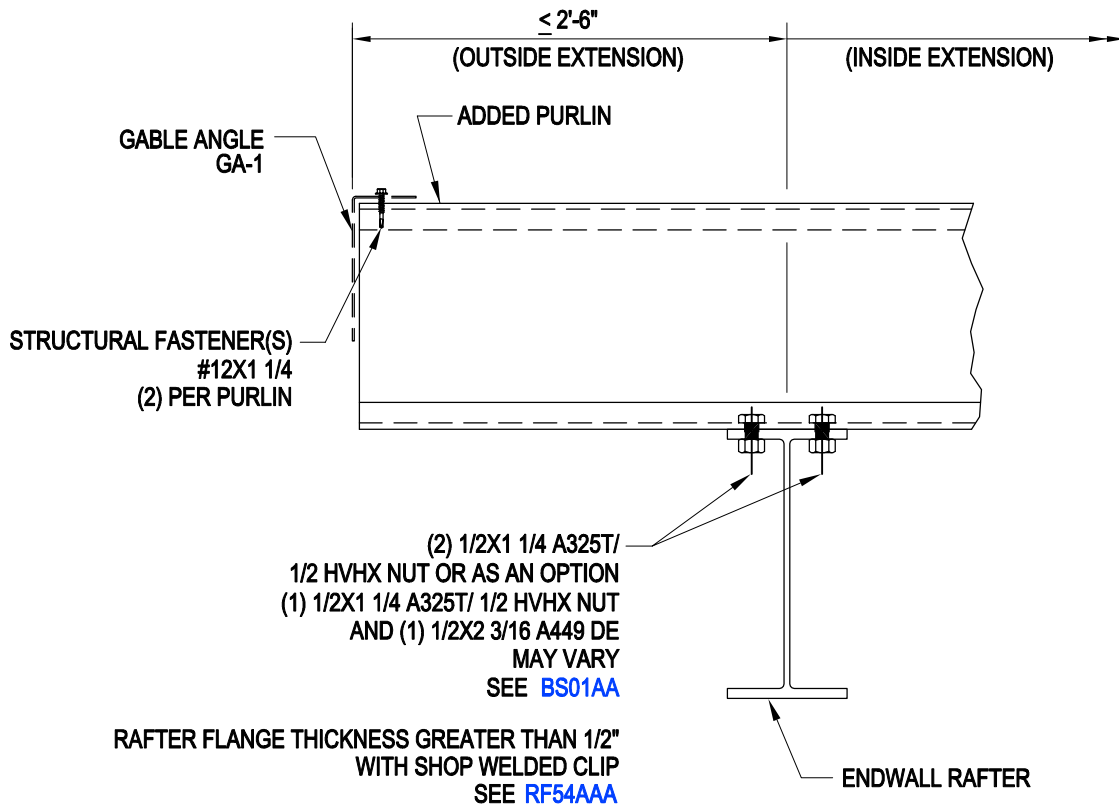
EDGE ZONE OR CORNER ZONE WITH OPEN CEE
OUTSIDE EXTENSION OR OVERHANG > 2'-6" (CLIP-FASTENED ROOFS)

| |
|--------------|
| BR81B |
| AA |

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Edge Zone or Corner Zone with Gable Angle
 Outside Extension is $\leq 2'-6"$ (Clip-Fastened Roofs)
 BR81W/AA



EDGE ZONE OR CORNER ZONE WITH GABLE ANGLE

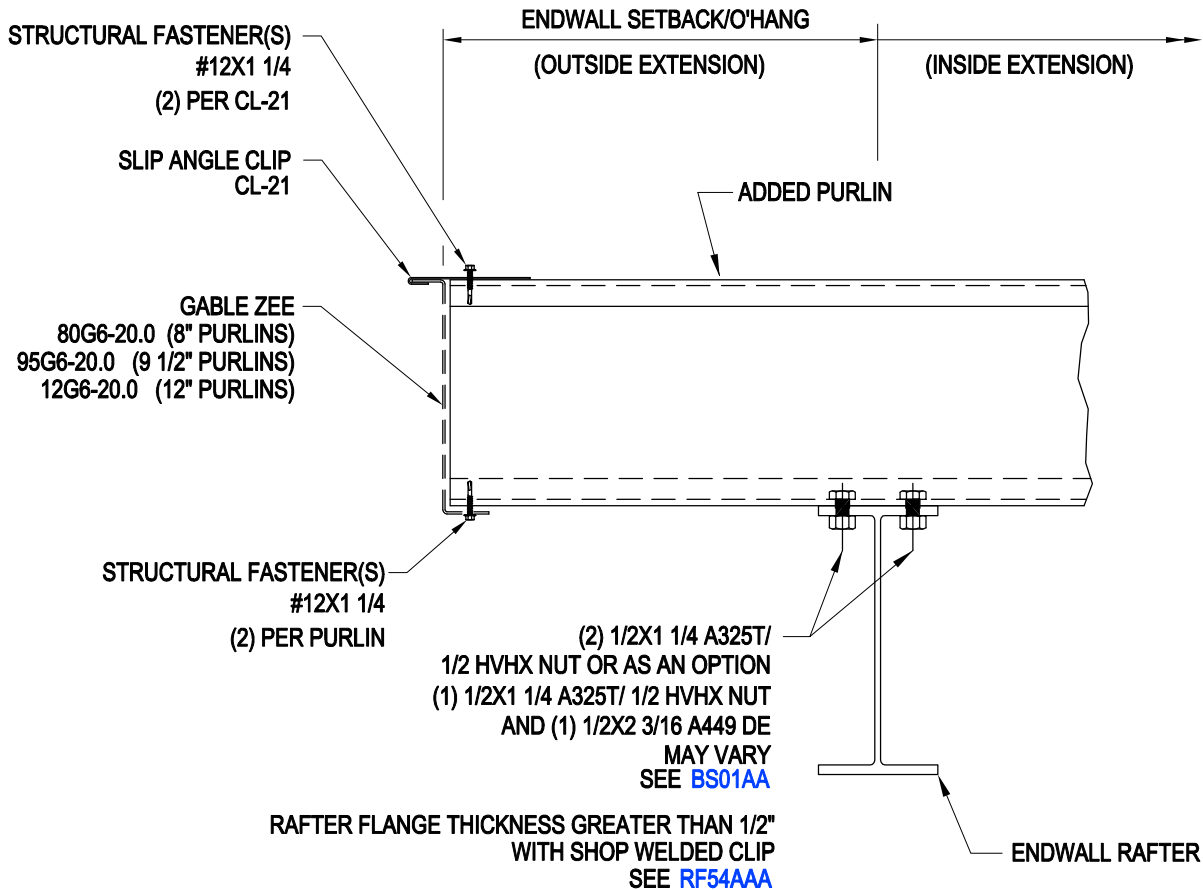
OUTSIDE EXTENSION IS $\leq 2'-6"$ (CLIP-FASTENED ROOFS)

| |
|--------------|
| BR81W |
| AA |

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Edge Zone or Corner Zone with Gable Zee
Outside Extension (Long Span III Roof)
BR81W/BA



EDGE ZONE OR CORNER ZONE WITH GABLE ZEE
OUTSIDE EXTENSION (LONG SPAN III ROOF)

| |
|--------------|
| BR81W |
| BA |

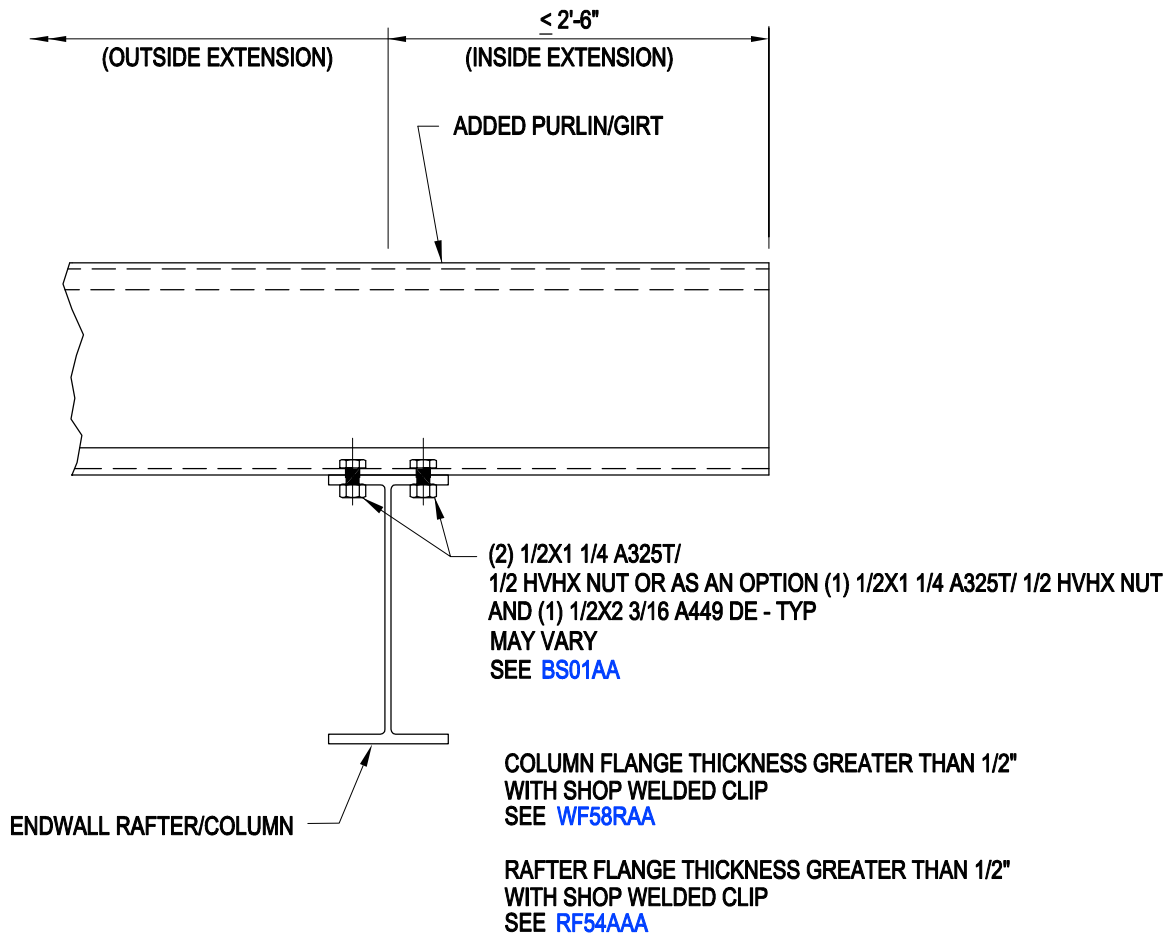
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Edge Zone or Corner Zone Inside Connections

Inside Extension \leq 2'-6"

BR81Y/AA



EDGE ZONE OR CORNER ZONE INSIDE CONNECTIONS

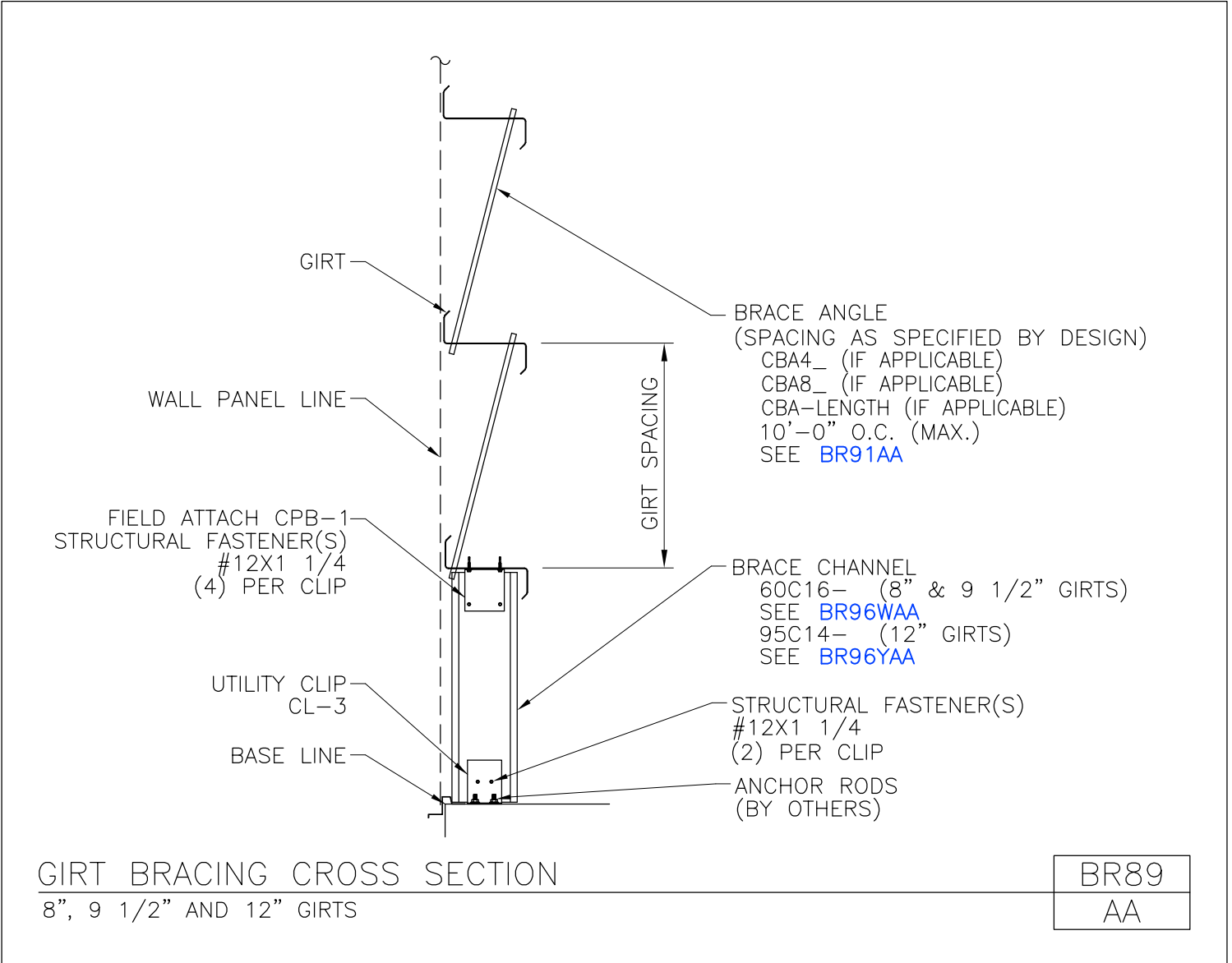
INSIDE EXTENSION \leq 2'-6"

| |
|-------|
| BR81Y |
| AA |

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Girt Bracing Cross Section
8", 9 1/2", and 12" Girts
BR89/AA



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A **NUCOR** COMPANY

PRODUCT MANUAL

SECONDARY FRAMING

Bypass Secondary Framing Connection, Bolt Requirements

BS01/AA

| RAFTER/COLUMN FLANGE THICKNESS | SECONDARY MEMBER GAUGE | DOUBLE ENDED BOLT 1/2" X 2 3/16" A449 (NUTS INCLUDED) REQUIRED AT GIRTS OPTIONAL AT PURLINS | 1/2" A325T BOLT REQUIRED FOR LAPPED MEMBERS (REQUIRES 1/2 HVHX NUT) | 1/2" A325T BOLT REQUIRED FOR NON LAPPED MEMBERS (REQUIRES 1/2 HVHX NUT) |
|--------------------------------|------------------------|--|--|--|
| 3/8" | 11 - 16 | 1/2X2 3/16 A449 DE | 1/2X1 1/4 A325T | 1/2X1 1/4 A325T |
| | 16 | 1/2X2 3/16 A449 DE | 1/2X1 1/4 A325T | 1/2X1 1/4 A325T |
| | 15 | 1/2X2 3/16 A449 DE | 1/2X1 1/4 A325T | 1/2X1 1/4 A325T |
| | 14 | 1/2X2 3/16 A449 DE | 1/2X1 1/4 A325T | 1/2X1 1/4 A325T |
| | 13 | 1/2X2 3/16 A449 DE | 1/2X1 1/4 A325T | 1/2X1 1/4 A325T |
| | 12 | 1/2X2 3/16 A449 DE | 1/2X2 A325T | 1/2X1 1/4 A325T |
| | 11 | 1/2X2 3/16 A449 DE | 1/2X2 A325T | 1/2X1 1/4 A325T |
| 1/2" | 16 | 1/2X2 3/16 A449 DE | 1/2X2 A325T | 1/2X1 1/4 A325T |
| | 15 | 1/2X2 3/16 A449 DE | 1/2X2 A325T | 1/2X2 A325T |
| | 14 | 1/2X2 3/16 A449 DE | 1/2X2 A325T | 1/2X2 A325T |
| | 13 | 1/2X2 3/16 A449 DE | 1/2X2 A325T | 1/2X2 A325T |
| | 12 | 1/2X2 3/16 A449 DE | 1/2X2 A325T | 1/2X2 A325T |

THE FOLLOWING FLANGE THICKNESS CONNECTIONS REQUIRE THE USE OF SHOP WELDED CLIPS. (SEE CONNECTION DETAILS.)

| RAFTER/COLUMN FLANGE THICKNESS | SECONDARY MEMBER GAUGE | BUTTON HEAD BOLT AT WALL ZEE GIRTS ONLY 1/2" BUTTON HEAD BOLT (NUT INCLUDED) FIRST GIRT TO SHOP WELDED CLIP (UP THROUGH 1ST GIRT AND SHOP WELDED CLIP) | 1/2" A325T BOLT REQUIRED FOR LAPPED AND NON LAPPED MEMBERS (REQUIRES 1/2 HVHX NUT) |
|--------------------------------|------------------------|--|---|
| 1/2" | 11 | 1/2 X 1 1/4 A307 BHB | 1/2 X 1 1/4 A325 |
| > 1/2" | 16 | 1/2 X 1 1/4 A307 BHB | 1/2 X 1 1/4 A325 |
| | 15 | 1/2 X 1 1/4 A307 BHB | 1/2 X 1 1/4 A325 |
| | 14 | 1/2 X 1 1/4 A307 BHB | 1/2 X 1 1/4 A325 |
| | 13 | 1/2 X 1 1/4 A307 BHB | 1/2 X 1 1/4 A325 |
| | 12 | 1/2 X 1 1/4 A307 BHB | 1/2 X 1 1/4 A325 |
| | 11 | 1/2 X 1 1/4 A307 BHB | 1/2 X 1 1/4 A325 |

BYPASS SECONDARY FRAMING CONNECTION, BOLT REQUIREMENTS

BS01

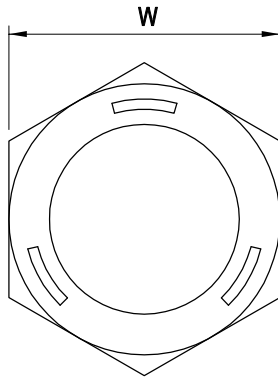
AA

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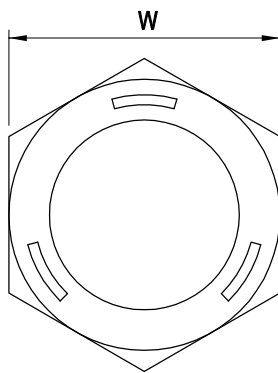
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ASTM A325/A325T Bolt Identification

MF01/AA

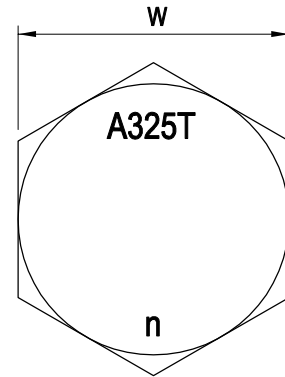


NUT



NUT

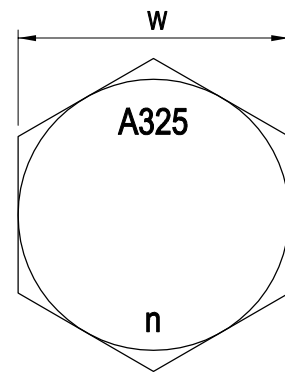
| BOLT DIAMETER | DIMENSION W |
|------------------|-------------|
| 1/2" | 7/8" |
| 3/4" | 1 1/4" |
| 7/8" | 1 7/16" |
| 1" | 1 5/8" |
| 1 1/4" | 2" |



A325T

n

HEAD



A325

n

HEAD

ASTM A325/A325T BOLT IDENTIFICATION

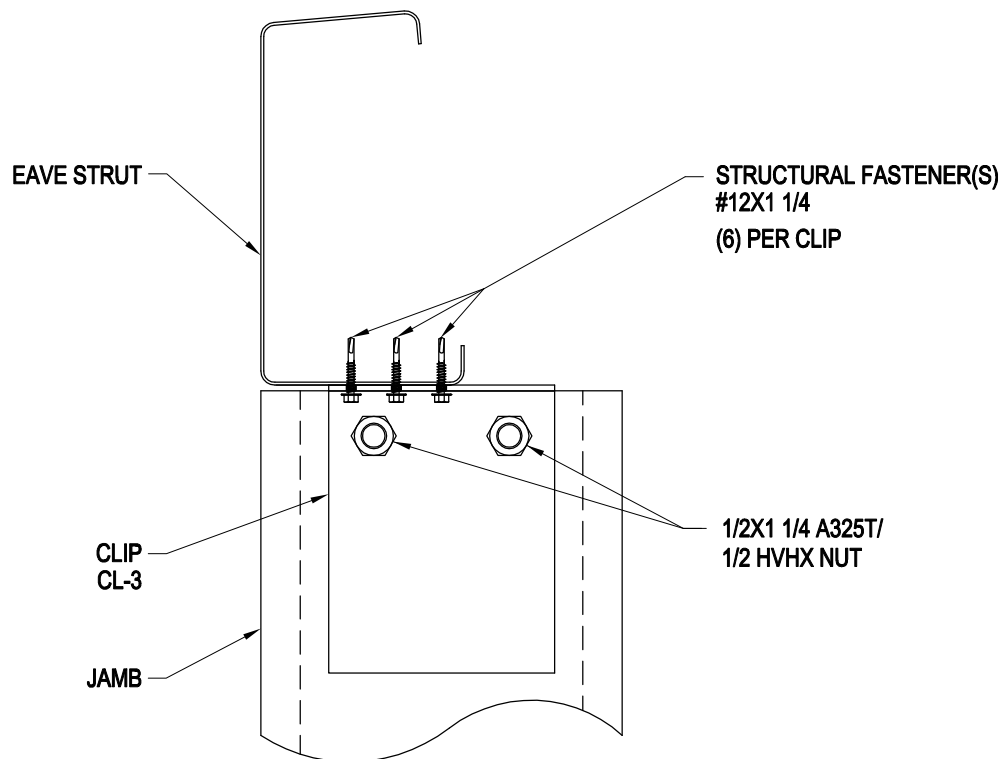
| |
|-------------|
| MF01 |
| AA |

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Jamb to Eave Strut Connection

OF06/AA



NOTE:
FOR USE WITH JAMBS, JAMB EXTENSIONS AND
WINDOW JAMBS ONLY, UNLESS OTHERWISE SPECIFIED
BY DESIGN. SEE OF06/AA FOR FULL DOOR JAMBS.

JAMB TO EAVE STRUT CONNECTION

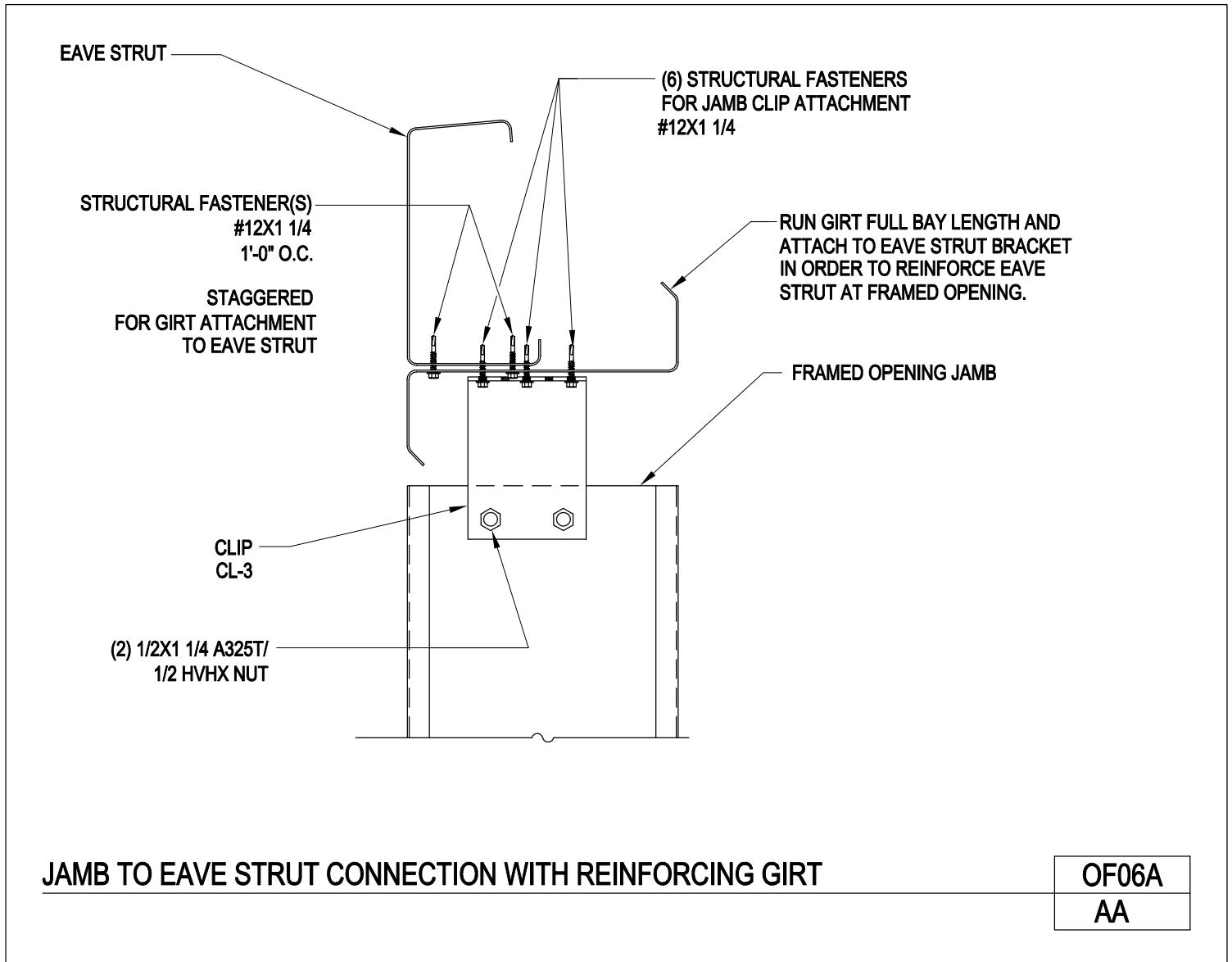
| |
|------|
| OF06 |
| AA |

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Jamb to Eave Strut Connection with Reinforcing Girt

OF06A/AA

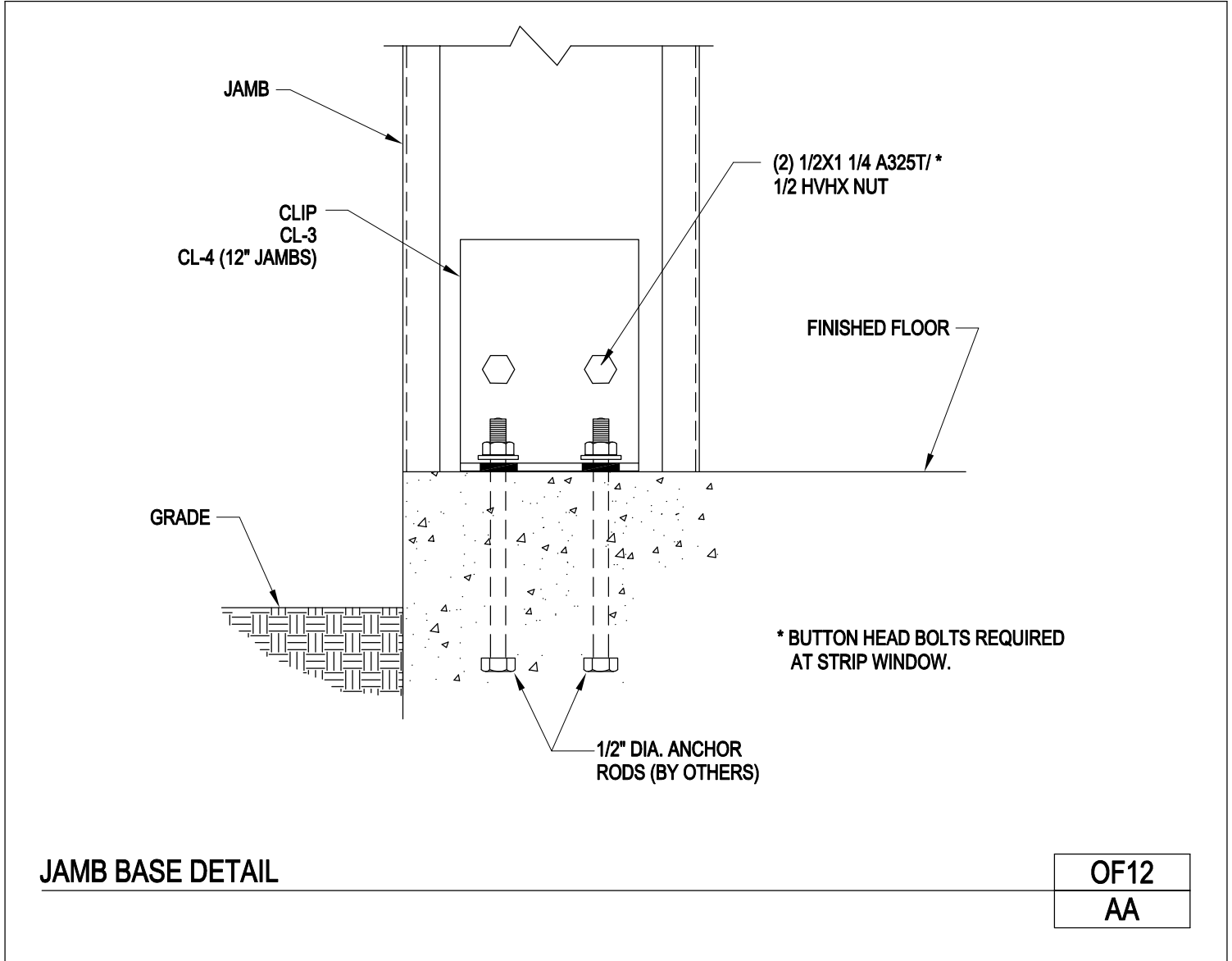


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Jamb Base Detail

OF12/AA



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