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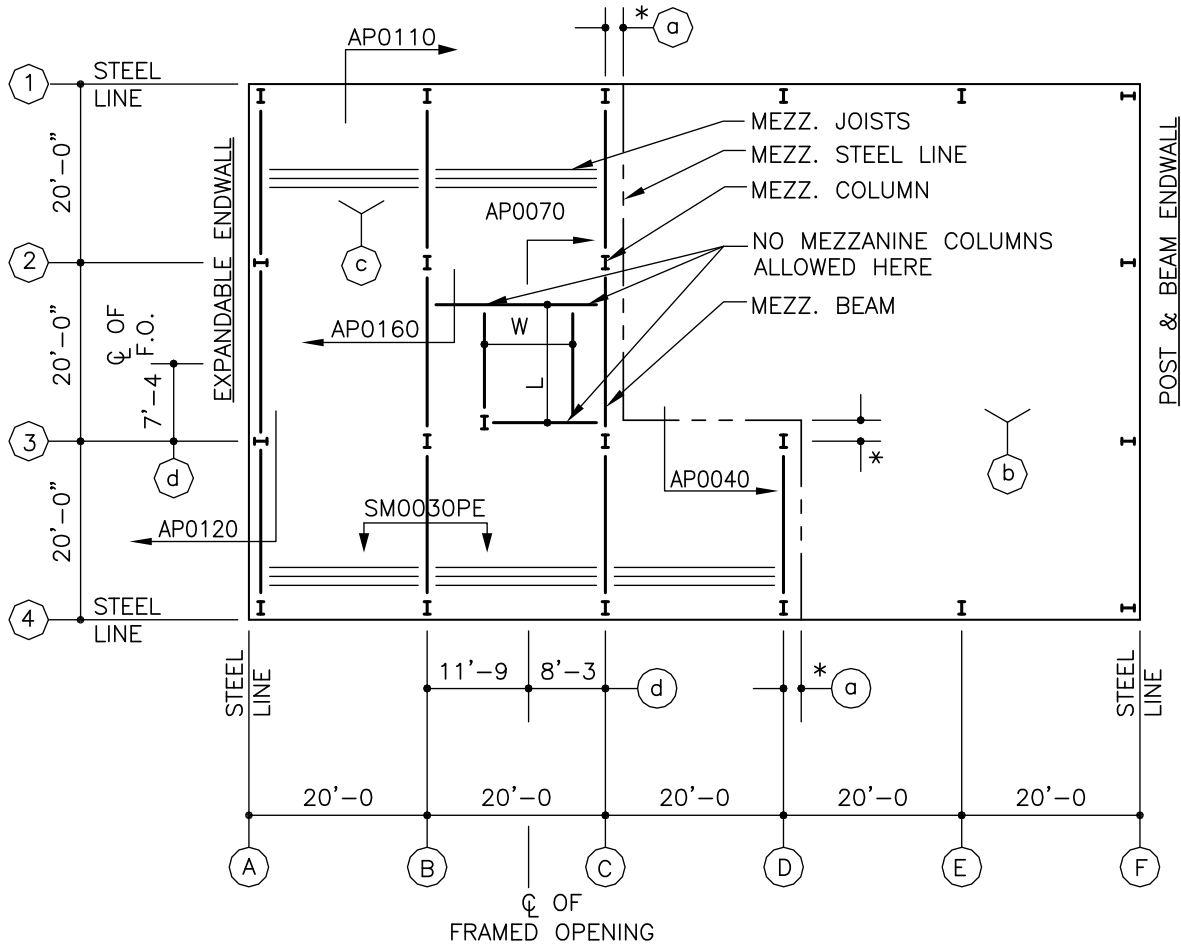
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GENERAL MEZZANINE INFORMATION AND SPECIFICATIONS

1. A “Mezzanine,” as recognized by Nucor Building Systems, is an intermediate level between the floor and ceiling usually occupying a partial area of floor space.
2. Mezzanines may be ordered and designed to accommodate conditions involving storage and/or occupancy.
3. Nucor Building Systems will engineer all mezzanine material specified on the signed “Nucor Order Documents” that is to be supplied by Nucor. Nucor Building Systems will not be responsible for materials outside of that ordered on the contract. It is imperative therefore that all applicable information and an accurate sketch is generated to insure that Nucor understands and provides for the correct conditions.
4. Three general areas of information are involved with mezzanine structures. (This information must be provided by the builder.)
 - Establishment of mezzanine parameters including critical vertical clearances and penetration locations and sizes.
 - Specification of design criteria.
 - Specification of material to be supplied by Nucor.
5. Design of mezzanine material shall be determined by Nucor Building Systems, unless specifically noted otherwise. Size, shape and depths of material will be to the discretion of Nucor’s Engineering department limited only by the parameters documented in the “Nucor Order Documents”.
6. Mezzanine designs involving joist and/or decking require field work for erection. The manufacturer of the joist, deck or detailed drawings provided by Nucor shall provide installation literature for these items.
7. Refer to [mezzanine plan information](#).

SM0010PE – MEZZANINE PLAN INFORMATION



(a) * = "MINIMUM" OR CUSTOMER TO PROVIDE

(d) STAIRWELL OPENING
W = 6'-0 CLEAR
L = 8'-0 CLEAR

○ REFERENCE PAGE 4.5.4 FOR DESCRIPTION OF NOTED AREAS ON ABOVE PLAN INVOLVING NECESSARY INFORMATION FOR MEZZANINE ORDERING.

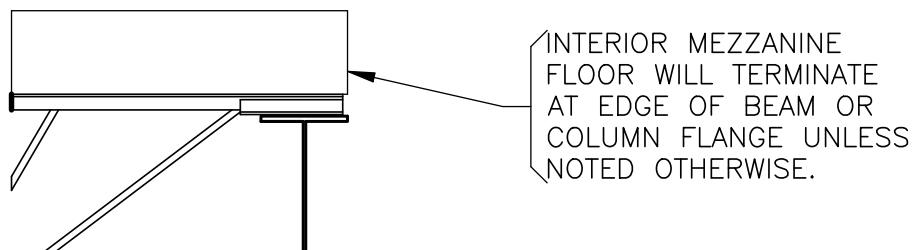
EXAMPLE MEZZANINE LAYOUT

(PROVIDED BY NUCOR CUSTOMER)

INFORMATION REQUIRED FOR MEZZANINE STRUCTURES

NOTE: Accuracy showing mezzanine information on the Nucor Building Systems order documents greatly reduce the chance of additional costs and scheduling delays. Accurate and complete foundation reactions cannot be calculated without penetration locations and load requirements.

1. Establishment of mezzanine parameters and penetration locations and sizes: (Reference [‘Example Mezzanine Layout’](#) this section)
 - a. The size and location of mezzanine within the building structure must be determined. A mezzanine/building sketch is an excellent way to ensure information and placement of mezzanine is correct.
 - b. Provide information that allows for or prohibits additional support column placement. Also convey any other structural restrictions relevant to the mezzanine framing.
 - c. Establish direction of joist. If direction of joist and placement of mezzanine beams is not provided by the customer, Nucor Building Systems will determine a framing layout utilizing Nucor Building Systems standards. Don't forget standard joist camber when calculating floor elevations and finishes. See SJI or manufacturer's information for requirements.
 - d. Provide exact location of any floor penetrations requiring special framing. Provide "clear" width and length dimensions needed. Design of framing material will establish center to center of beams.
 - e. Establish Mezzanine interior edge condition. Provide projection dimensions beyond support framing if applicable.
 - f. Establish Mezzanine exterior edge condition. Provide projection dimensions beyond support framing if applicable.
2. Define whether or not Nucor Building Systems is supplying support for stairwells. If so, show location and specify loads.
3. Mezzanine confirmation drawings will be issued to the builder on all jobs that have mezzanine steel by Nucor Building Systems, for coordination with other trades. These are not approval drawings; they simply convey what Nucor is supplying. If changes are required to these drawings, significant cost and delivery delays can occur. Therefore, it is important that accurate requirements are given as soon as possible.





PRODUCT AND ENGINEERING MANUAL

4.5 STANDARD MEZZANINE

FLOOR AND/OR MEZZANINE DESIGN INFORMATION FORM

FLOOR AND/OR MEZZANINE DESIGN INFORMATION FORM

Please provide all requested information on this page. Your order cannot be processed until Nucor Building Systems has received all the information requested on this page.

The size and exact location of mezzanine must be shown on the sketch page.

The columns, support girds, and direction of load span for the Second Floor and/or Mezzanine must be shown on the sketch page.

DESIGN LOADS: Live Load _____ PSF Dead Load _____ PSF

Mezzanine Dimensions: Length _____ PERP. TO FRAMELINE Width _____ PARALLEL TO FRAMELINE

_____ Inch Slab Light Weight Concrete Plywood Deck Thickness _____ Other _____
 Standard Weight Concrete Metal Deck

_____ PSF Collateral Load Under Second Floor and/or Mezzanine

LOADS APPLIED TO: TOP CHORD BOTTOM CHORD

If building has a stairwell, the size, location, and method of support, if required, must be shown on the Sketch Page.

(Dimensions needed on the Sketch Page are inside clear of Nucor Building Systems steel).

List sizes of required Clear Openings: _____

Total Weight of Stairwell _____

MATERIALS PROVIDED BY NUCOR BUILDING SYSTEMS: Design for Load Provision Only

- Edge Angle/Pour Stop
 - Auxiliary Support Columns
 - Support Beams
 - Bar Joists and Bridging
 - Weld Joists Bolt Joist
- Decking Type: .8028 GA Conform Other: Type _____ Gauge _____
- Deck Attachment: Welded Self-Drilling Screws
- Deck Finish: Prime Painted Gray Other: _____

INDICATE APPLICABLE SIDEWALL DETAIL AND PROVIDE REQUESTED DIMENSIONS.

The details shown below are suggested framing methods only. If framing methods other than shown below are required, show the details required on the Sketch Page. Frame columns will be straight or tapered, depending on the building type.

Endwall column depth will vary depending upon the loads.

Use additional Floor and/or Mezzanine Design Information forms for more than one floor area.

Joist design including camber considerations are designed in accordance with SJI standards.

Deck is designed and fabricated according to SJI standards.

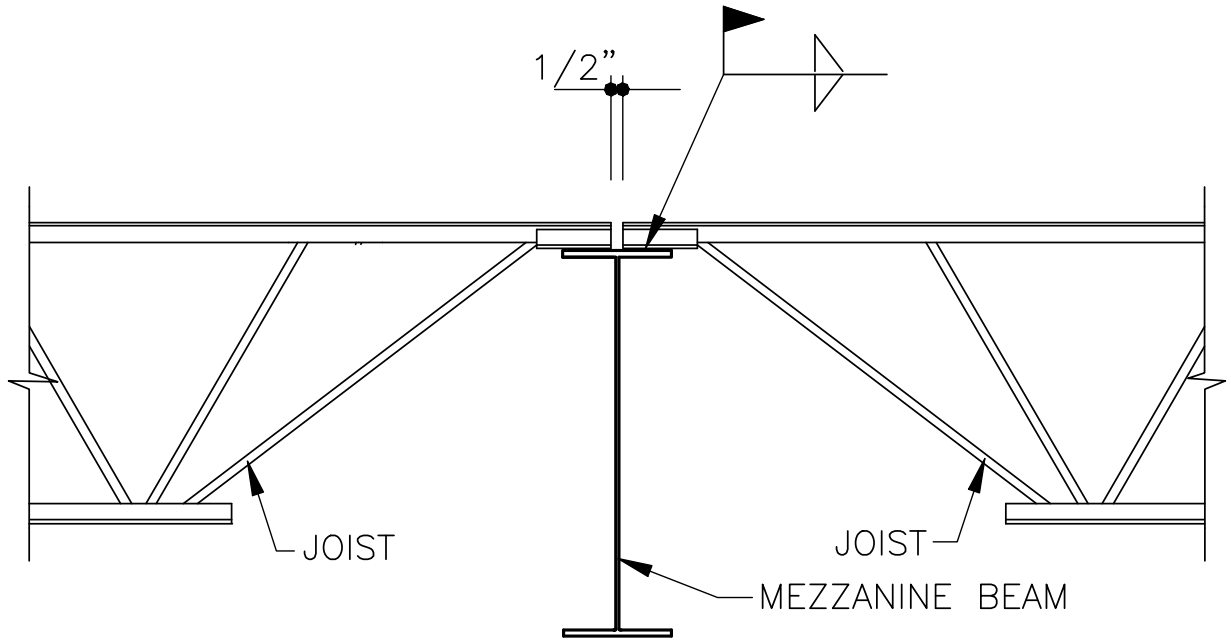
	REQUESTED	NOTED
A - FINISH FLOOR TO TOP OF MEZZANINE		7'-0"
B - MINIMUM PERM. CLEARANCE UNDER JOIST		
C - MINIMUM PERM. CLEARANCE UNDER SUPPORT BEAM		
D - MINIMUM PERM. CLEARANCE UNDER FRAME		
E - EDGE OF SLAB/DECK SETBACK FROM STEEL LINE		
F - CLEARANCE UNDER WING		

INTERIOR MEZZANINE FLOOR JOIST TERMINATE AT EDGE OF BEAM OF COLUMN FLANGE (UNLESS NOTED OTHERWISE ON SKETCH PAGE)

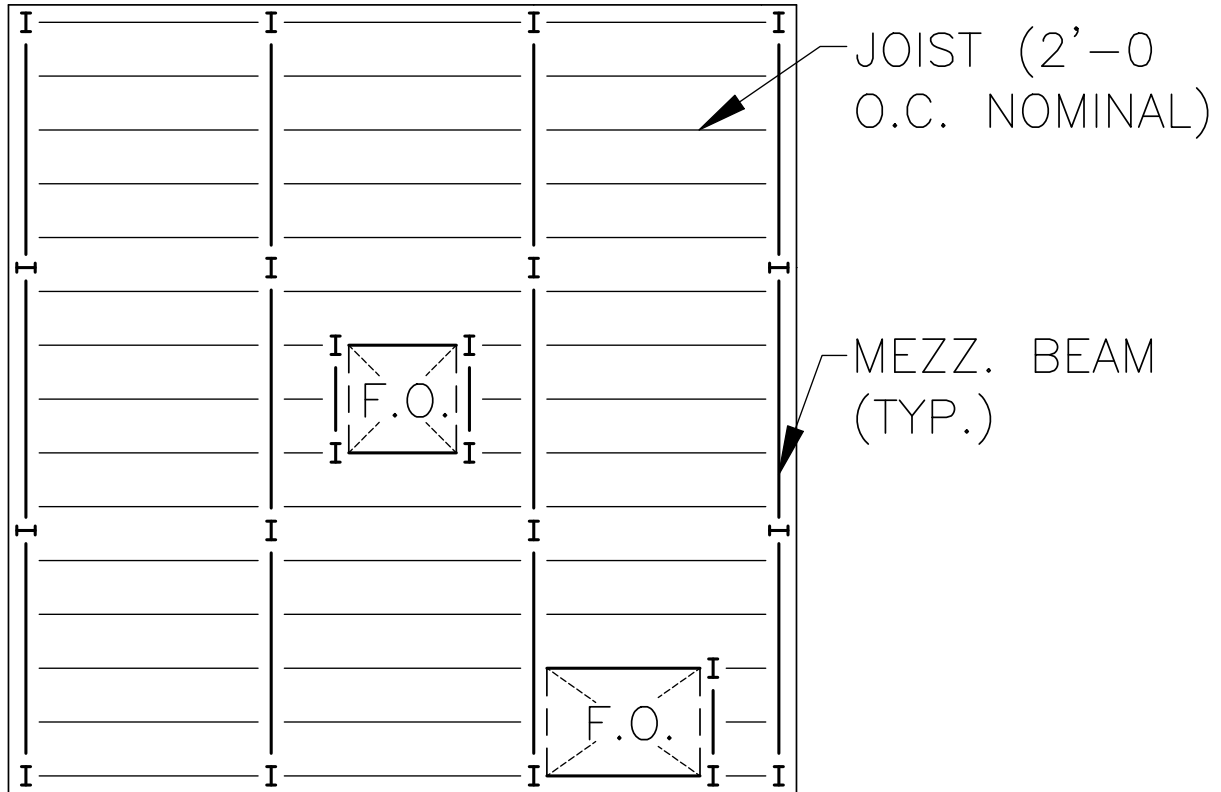
LAST REVISION
 DATE: 02/09/01
 BY: CDM CHK: RJF

4.5.5

SM0030PE – WELDED JOIST ATTACHMENT



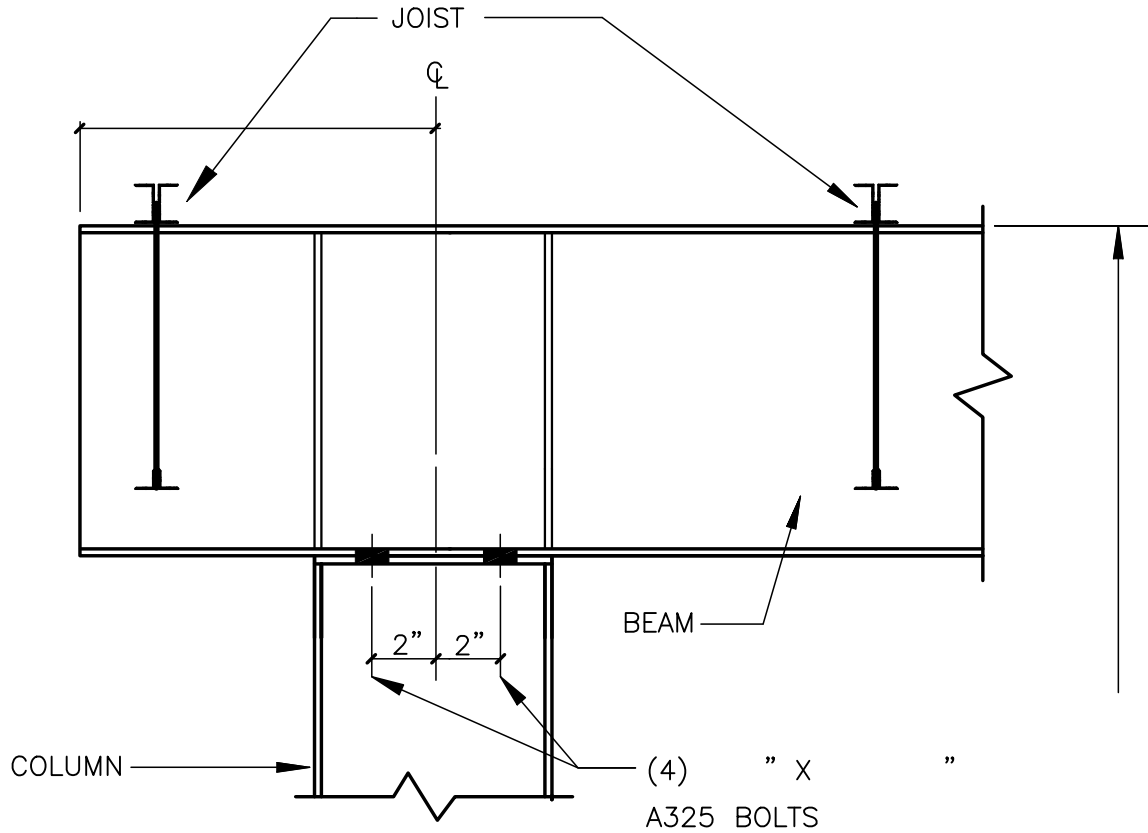
SM0040PE – MEZZANINE FRAMED OPENINGS



1. Mezzanine framed openings are typically achieved by placing a column at the edge of the opening that is not already adjacent to a mezzanine beam, as shown above. Because of that, it is important that opening sizes and locations are given at order entry, so as not to cause delays or pricing impacts. It is also important to include at least general framed opening information at the quote stage so that additional pricing can be avoided at order entry. For openings at stairwells, please indicate whether or not the Nucor steel is supporting the stairway on the mezzanine form of the order documents.
2. Typically, base plates for mezzanine columns are recessed below floor. Please indicate required base plate elevations in box 28 of the order documents. If not stated otherwise, they will be set at finished floor elevation.
3. Standard mezzanine column and beam shapes are built-up "H" sections. Special requirements can and usually do have pricing impacts. Consult Nucor Sales Engineering or estimating if special requirements are needed.
4. If "X" bracing is allowed between mezzanine columns, please show available locations on the order document sketch.

BEAM CONNECTION DETAILS

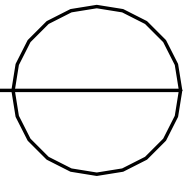
AP0010 – BEAM END CONNECTION WITH “I” SHAPE COLUMN



AP0010

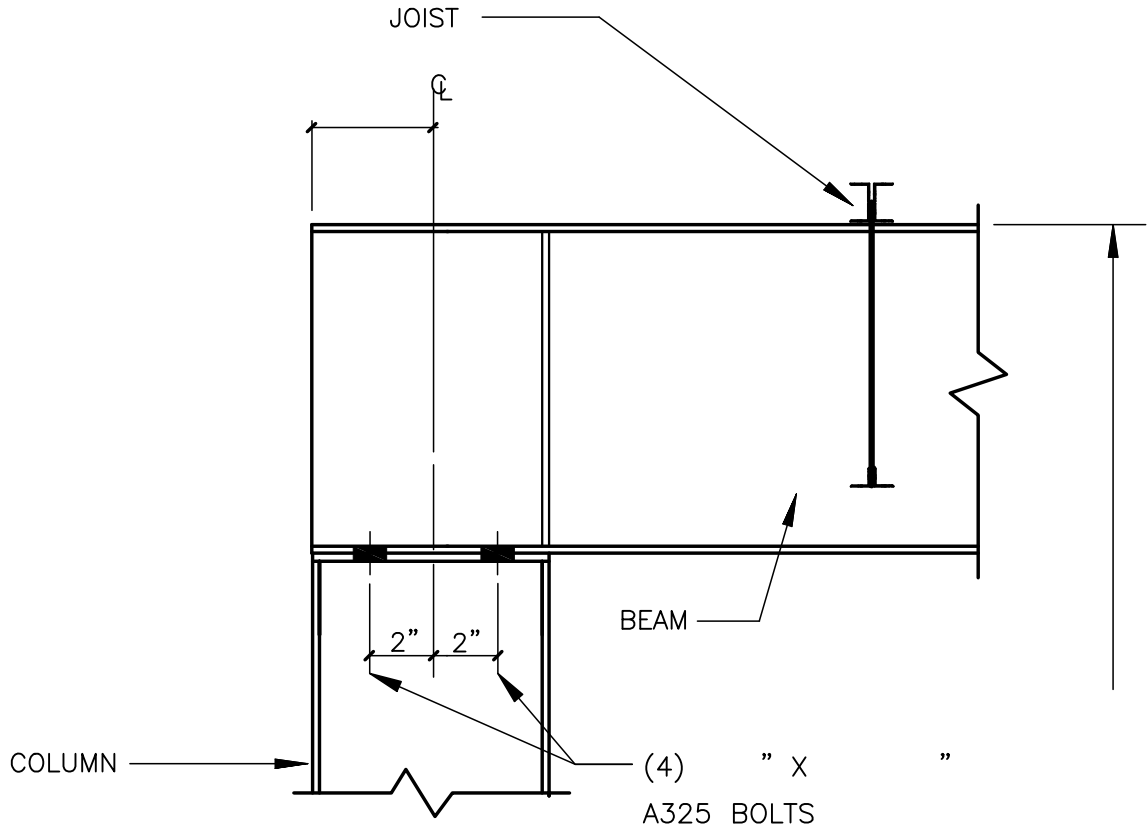
BEAM CONNECTION DETAIL

MEZZ. BEAM END CONDITION WITH “I” SHAPE COLUMN



<p>LAST REVISION DATE: <u>03/07/03</u> BY: <u>CDM</u> CHK: <u>RJF</u></p>	<p><u>DETAIL NAME IF APPLICABLE</u> AP0010.DWG</p>	<p>4.5.8</p>
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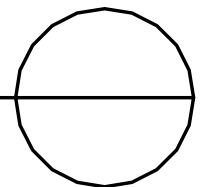
AP0040 – FLUSH BEAM END CONNECTION WITH “I” SHAPE COLUMN



AP0040

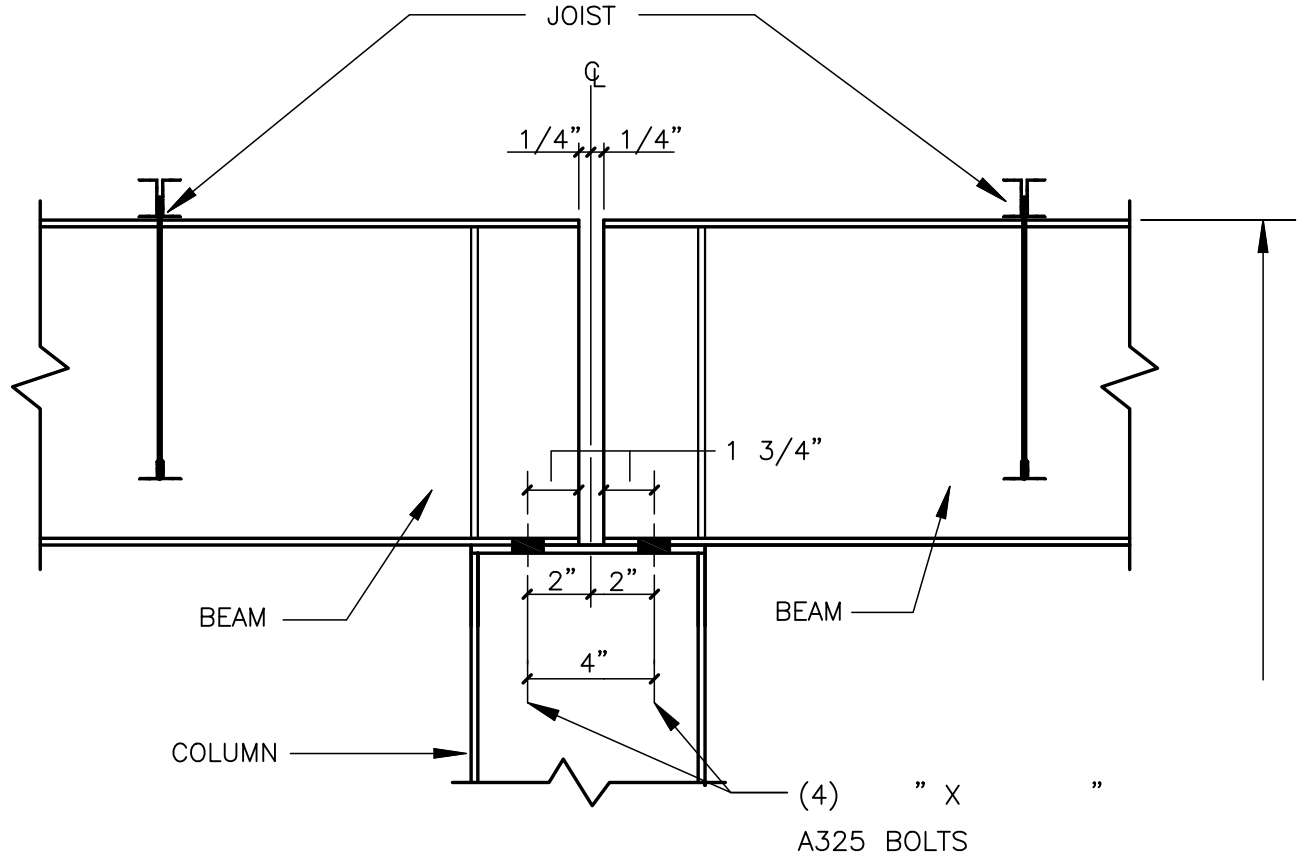
BEAM CONNECTION DETAIL

MEZZ. BEAM END CONDITION WITH " I " SHAPE COLUMN



<p>LAST REVISION DATE: <u>03/07/03</u> BY: <u>CDM</u> CHK: <u>RJF</u></p>	<p><u>DETAIL NAME IF APPLICABLE</u> AP0040.DWG</p>	<p>4.5.9</p>
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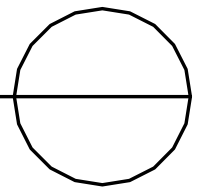
AP0070 – INTERIOR CONNECTION WITH “I” SHAPE COLUMN



AP0070

BEAM CONNECTION DETAIL

MEZZ. BEAM TO INTERIOR "I" SHAPE COLUMN

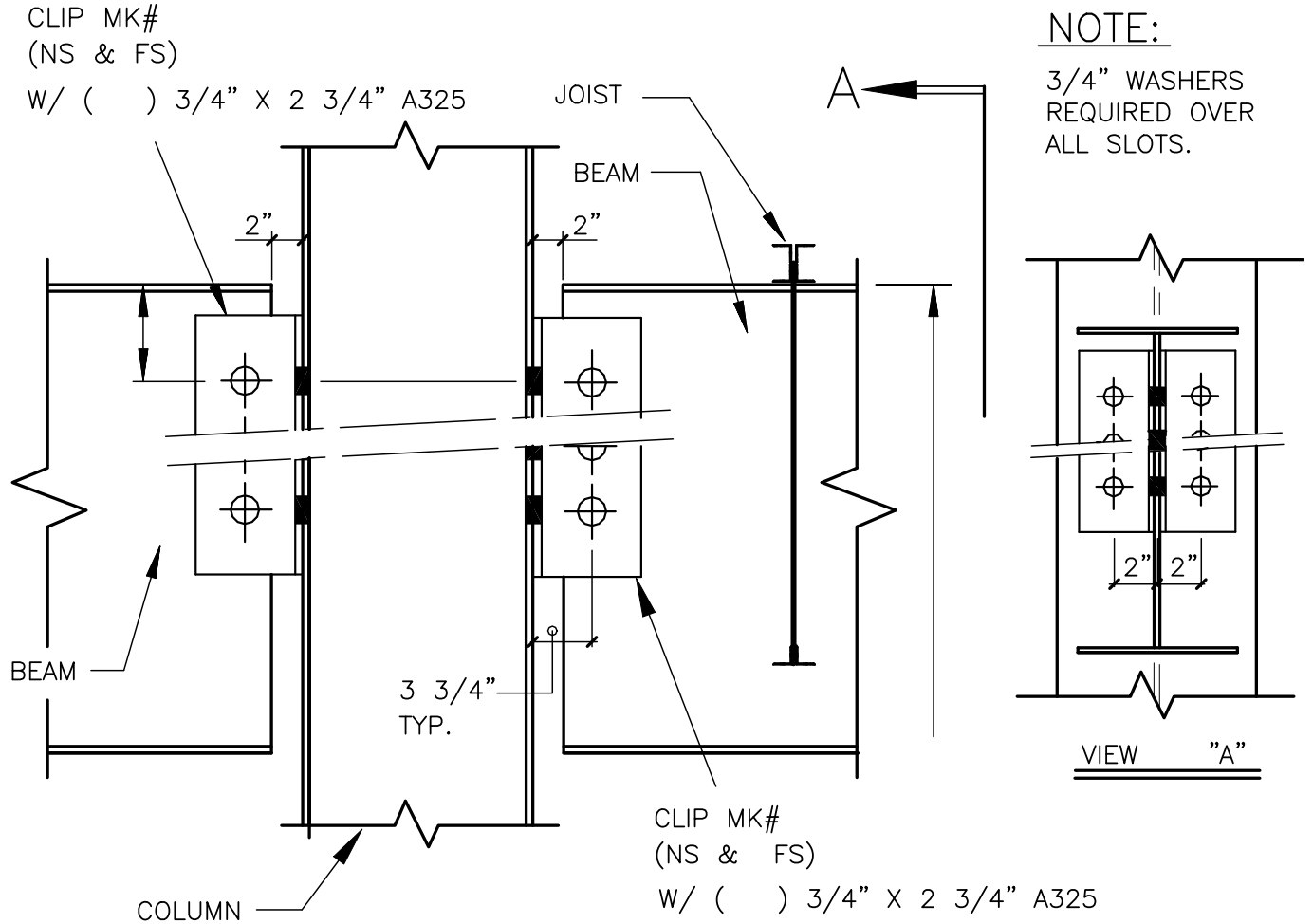


LAST REVISION DATE: <u>03/07/03</u> BY: <u>CDM</u> CHK: <u>RJF</u>
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<u>DETAIL NAME IF APPLICABLE</u> AP0070.DWG

4.5.10

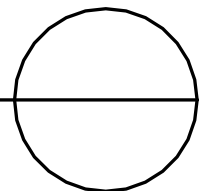
AP0100 – FULL HEIGHT COLUMN (2 BEAMS – FLANGE CONNECTION)



AP0100

BEAM CONNECTION DETAIL

MEZZ. BEAM TO FLANGE OF FULL HEIGHT COLUMN.



LAST REVISION
DATE: 03/14/01
BY: CDM CHK: RJF

DETAIL NAME IF APPLICABLE

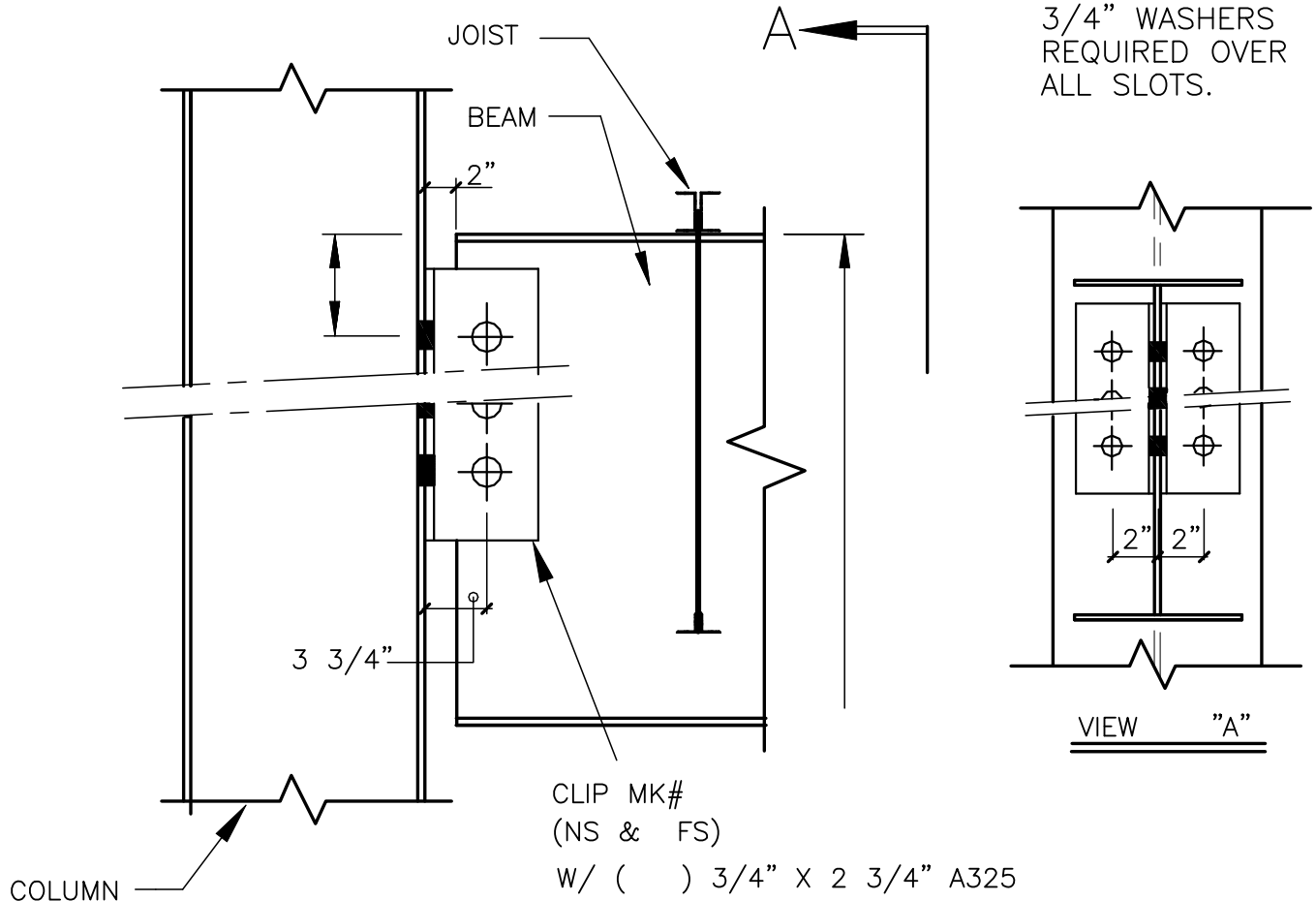
AP0100.DWG

4.5.11

AP0110 – FULL HEIGHT COLUMN (1 BEAM – FLANGE CONNECTION)

NOTE:

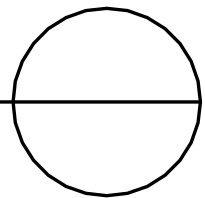
3/4" WASHERS
REQUIRED OVER
ALL SLOTS.



AP0110

BEAM CONNECTION DETAIL

MEZZ. BEAM TO FLANGE OF FULL HEIGHT COLUMN.

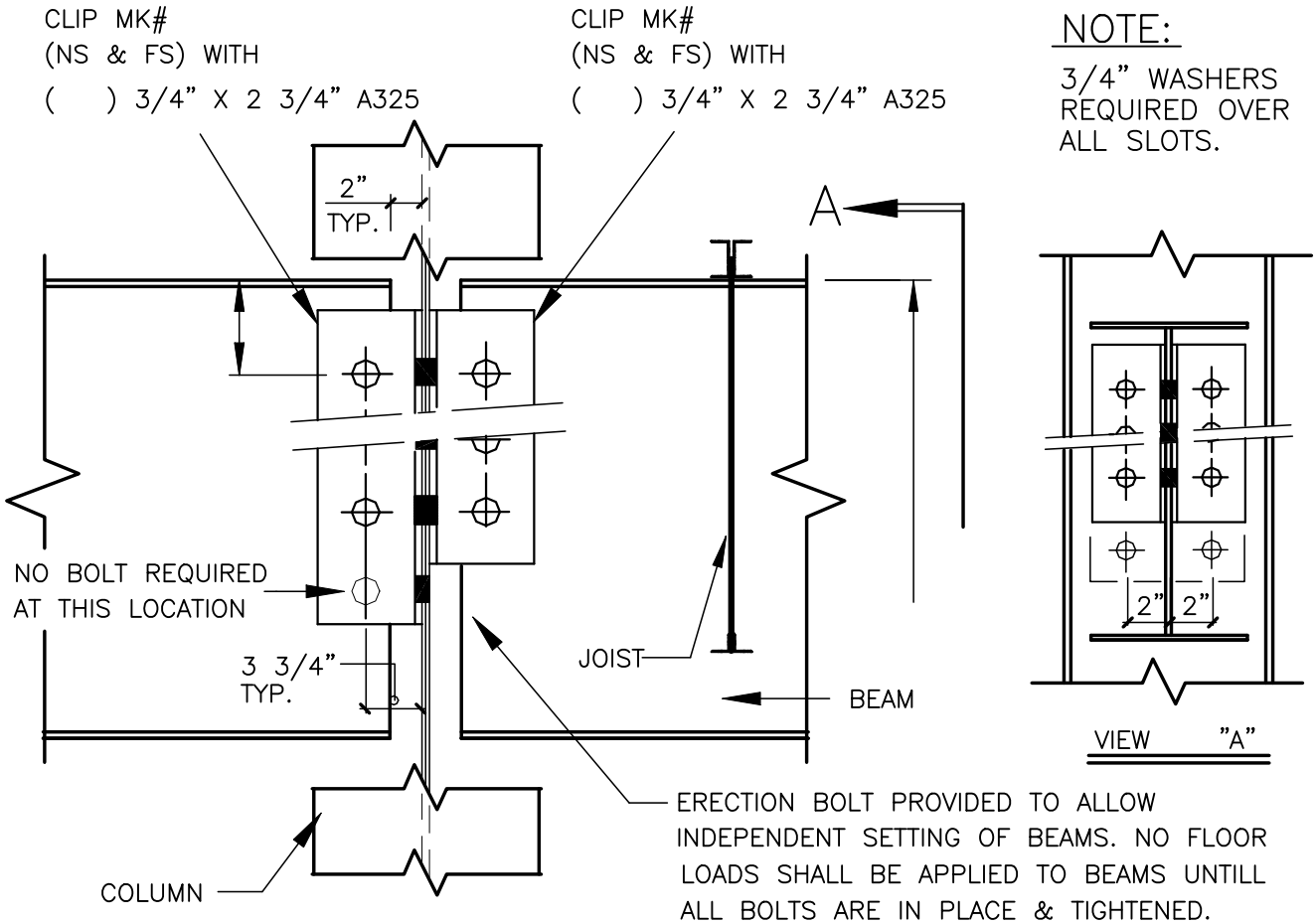


LAST REVISION DATE: <u>03/14/01</u> BY: <u>CDM</u> CHK: <u>RJF</u>
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DETAIL NAME IF APPLICABLE AP0110.DWG
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4.5.12

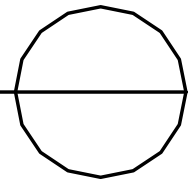
AP0120 – FULL HEIGHT COLUMN (2 BEAMS – WEB CONNECTION)



AP0120

BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF FULL HEIGHT COLUMN.



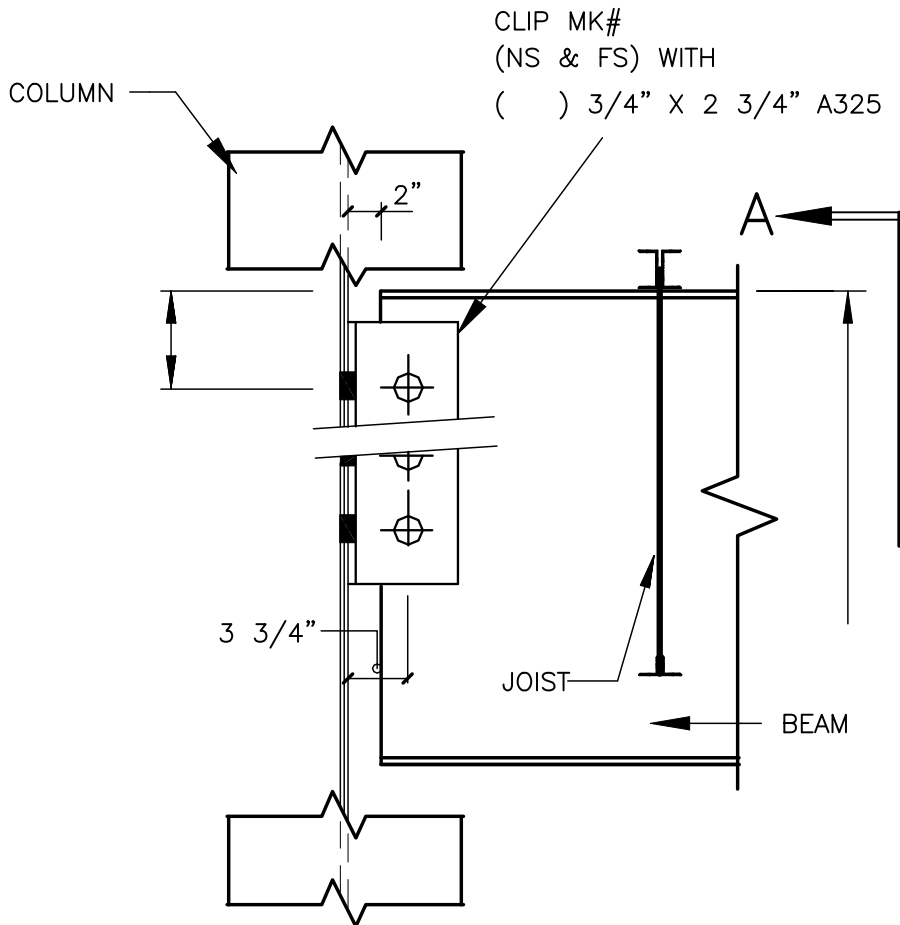
LAST REVISION
DATE: 02/09/01
BY: CDM CHK: RJF

DETAIL NAME IF APPLICABLE

AP0120.DWG

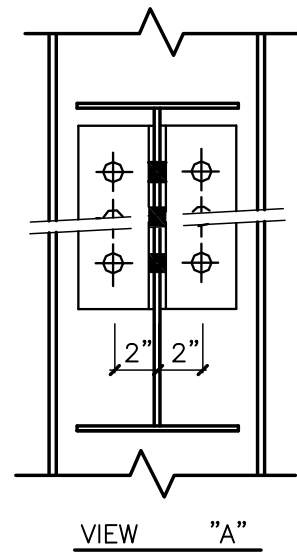
4.5.13

AP0130 – FULL HEIGHT COLUMN (1 BEAM – WEB CONNECTION)



NOTE:

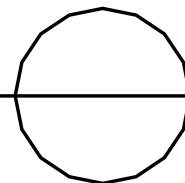
3/4" WASHERS
REQUIRED OVER
ALL SLOTS.



AP0130

BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF FULL HEIGHT COLUMN.



LAST REVISION
DATE: 02/09/01
BY: CDM CHK: RJF

DETAIL NAME IF APPLICABLE

AP0130.DWG

4.5.14

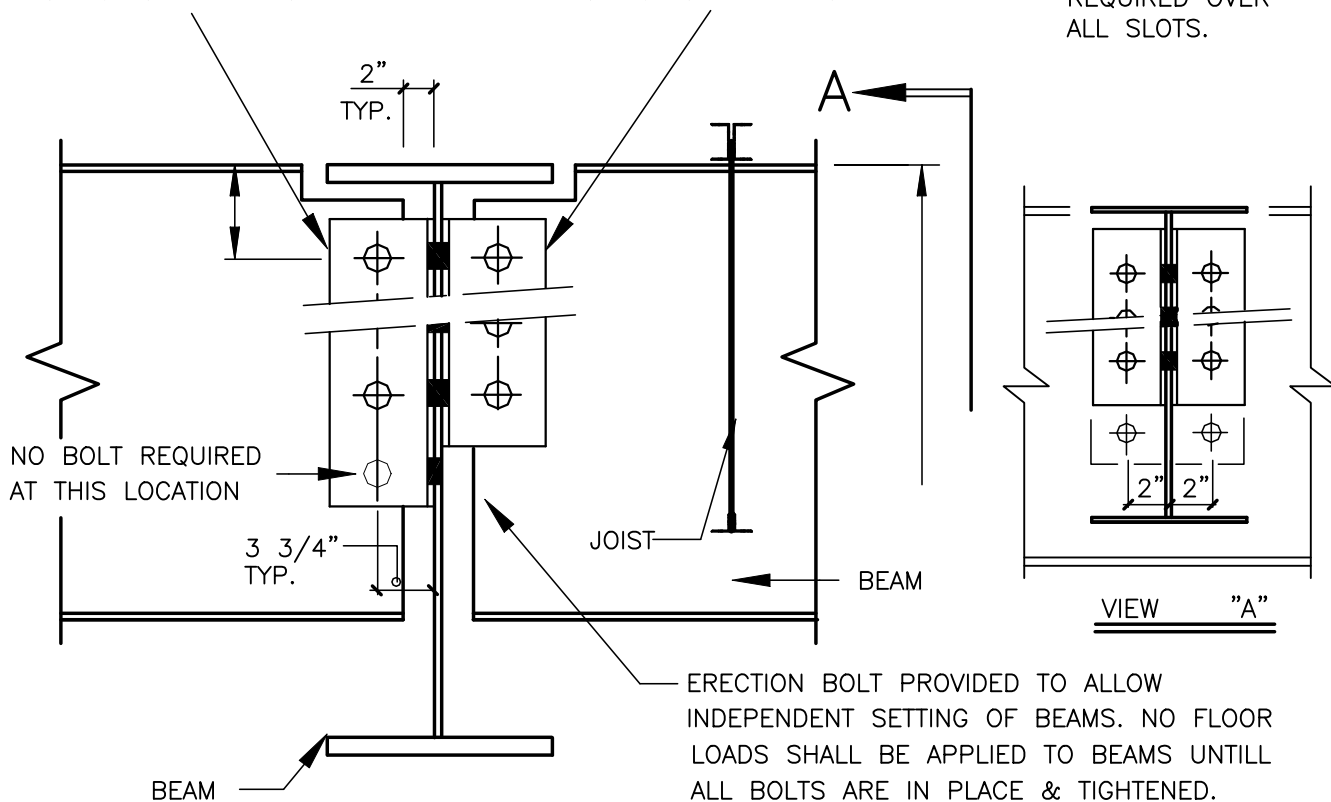
AP0140 – END CONNECTION TO DEEPER BEAM (2 BEAMS – SAME ELEVATION)

CLIP MK#
(NS & FS) WITH
() 3/4" X 2 3/4" A325

CLIP MK#
(NS & FS) WITH
() 3/4" X 2 3/4" A325

NOTE:

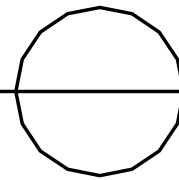
3/4" WASHERS
REQUIRED OVER
ALL SLOTS.



AP0140

BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF DEEPER BEAM AT SAME ELEVATION



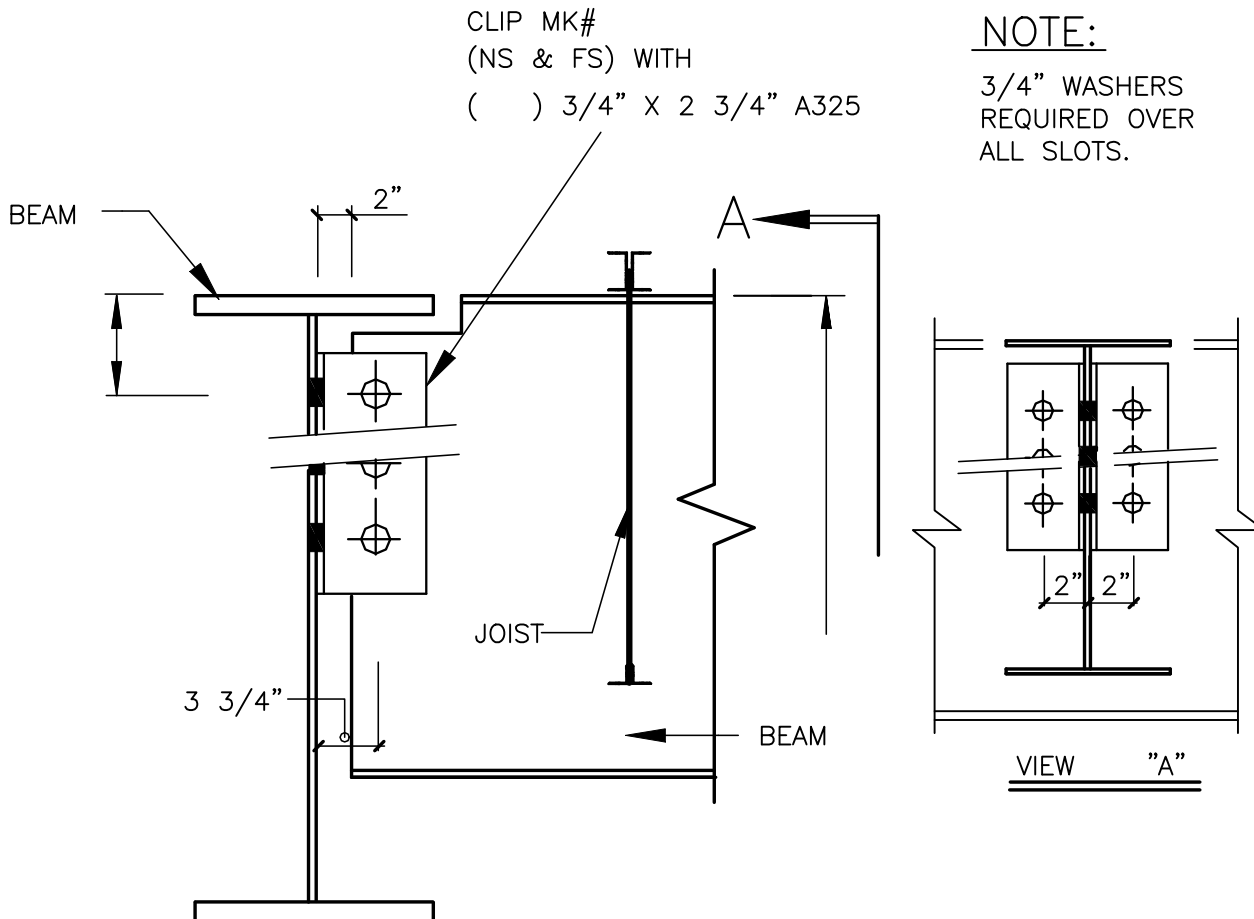
LAST REVISION
DATE: 02/09/01
BY: CDM CHK: RJF

DETAIL NAME IF APPLICABLE

AP0140.DWG

4.5.15

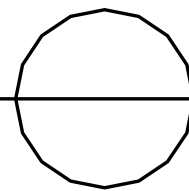
AP0150 – END CONNECTION TO DEEPER BEAM (1 BEAM – SAME ELEVATION)



AP0150

BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF DEEPER BEAM AT SAME ELEVATION



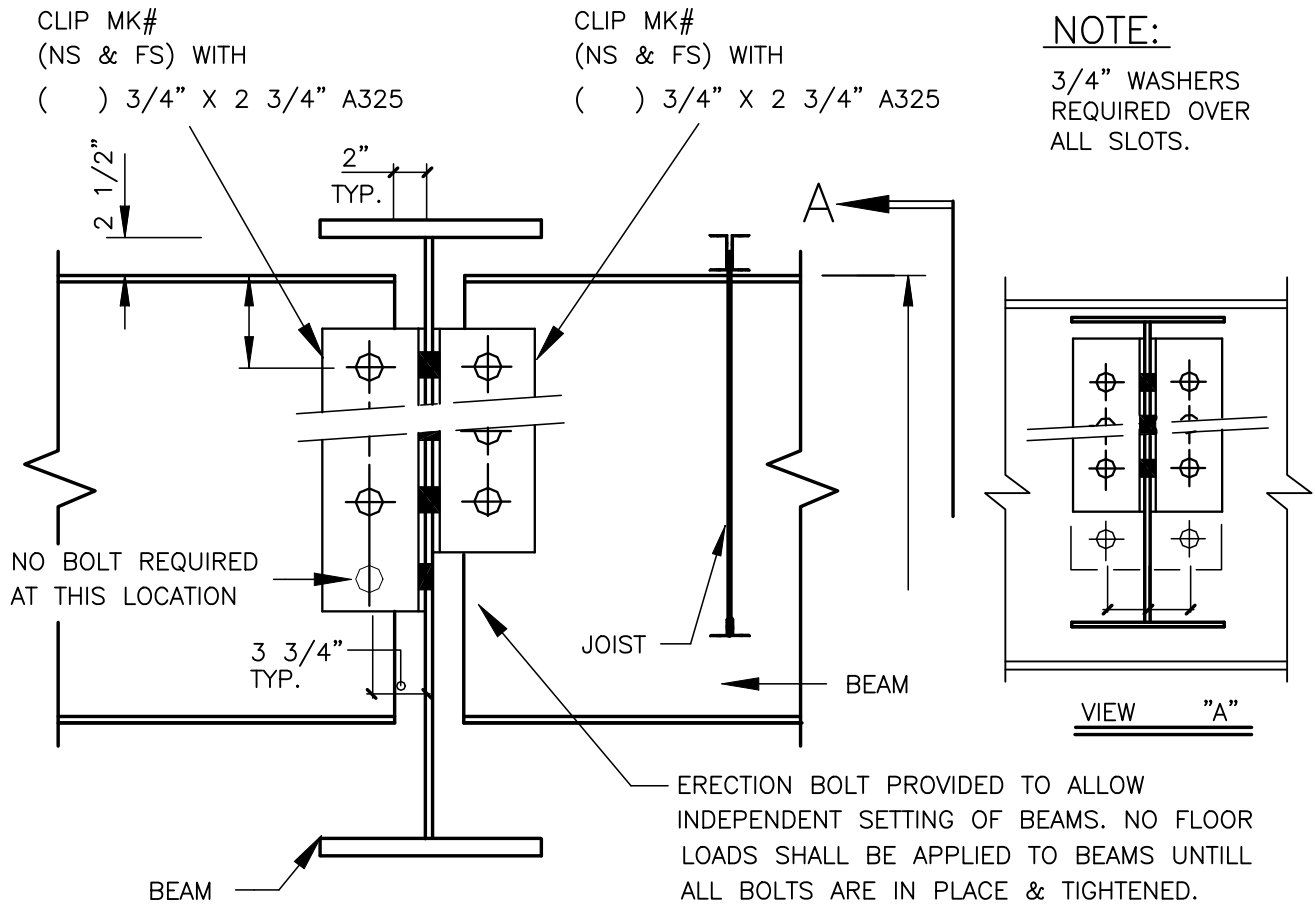
LAST REVISION
DATE: 02/09/01
BY: CDM CHK: RJF

DETAIL NAME IF APPLICABLE

AP0150.DWG

4.5.16

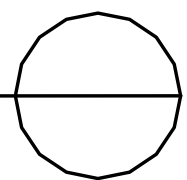
AP0160 – END CONNECTION TO DEEPER BEAM (2 BEAMS – DIFFERENT ELEVATION)



AP0160

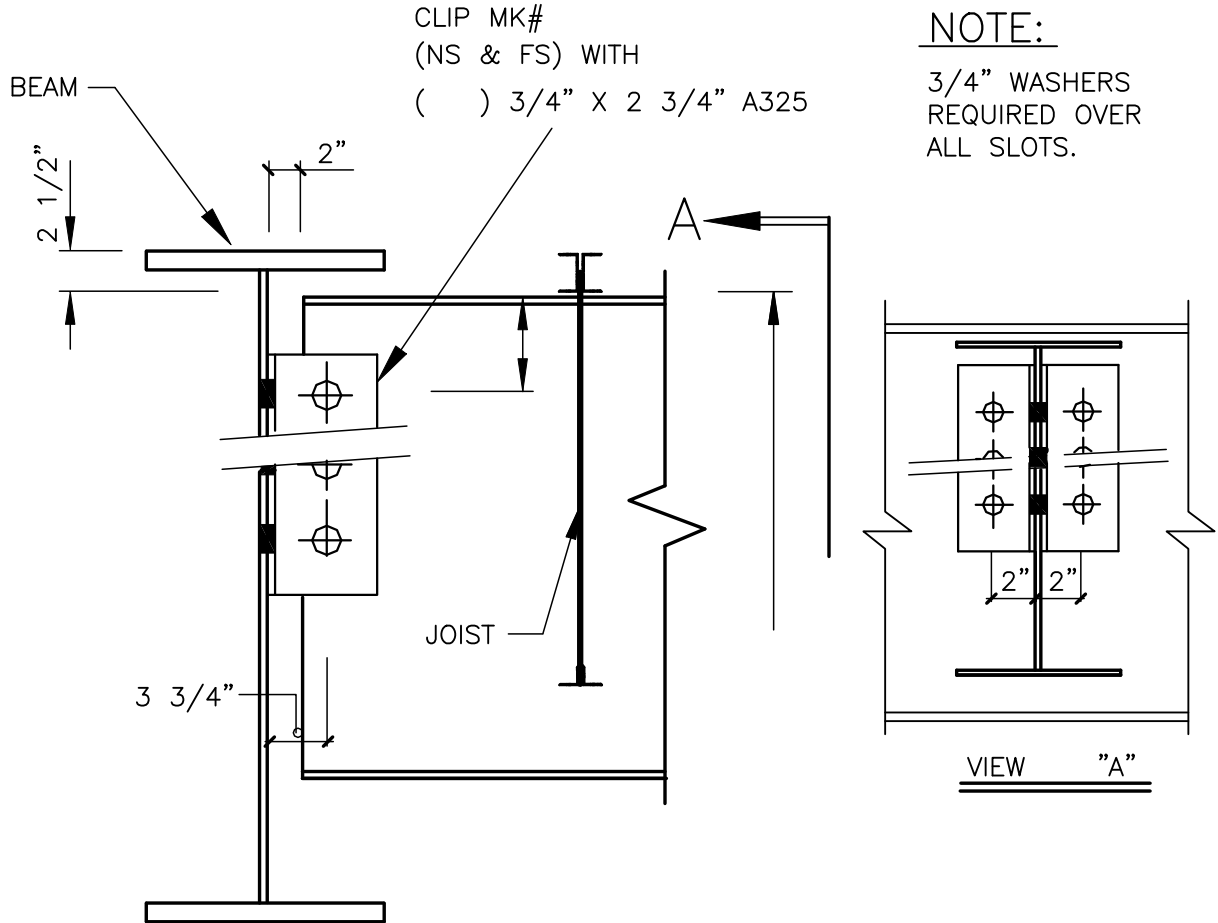
BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF DEEPER BEAM AT DIFF. ELEVATION



LAST REVISION DATE: 02/09/01 BY: CDM CHK: RJF	DETAIL NAME IF APPLICABLE <p style="text-align: center;">AP0160.DWG</p>	<p style="text-align: center;">4.5.17</p>
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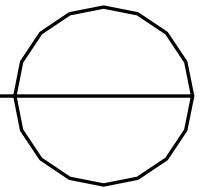
AP0170 – END CONNECTION TO DEEPER BEAM (1 BEAM – DIFFERENT ELEVATION)



AP0170

BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF DEEPER BEAM AT DIFF. ELEVATION



LAST REVISION
DATE: 02/09/01
BY: CDM CHK: RJF

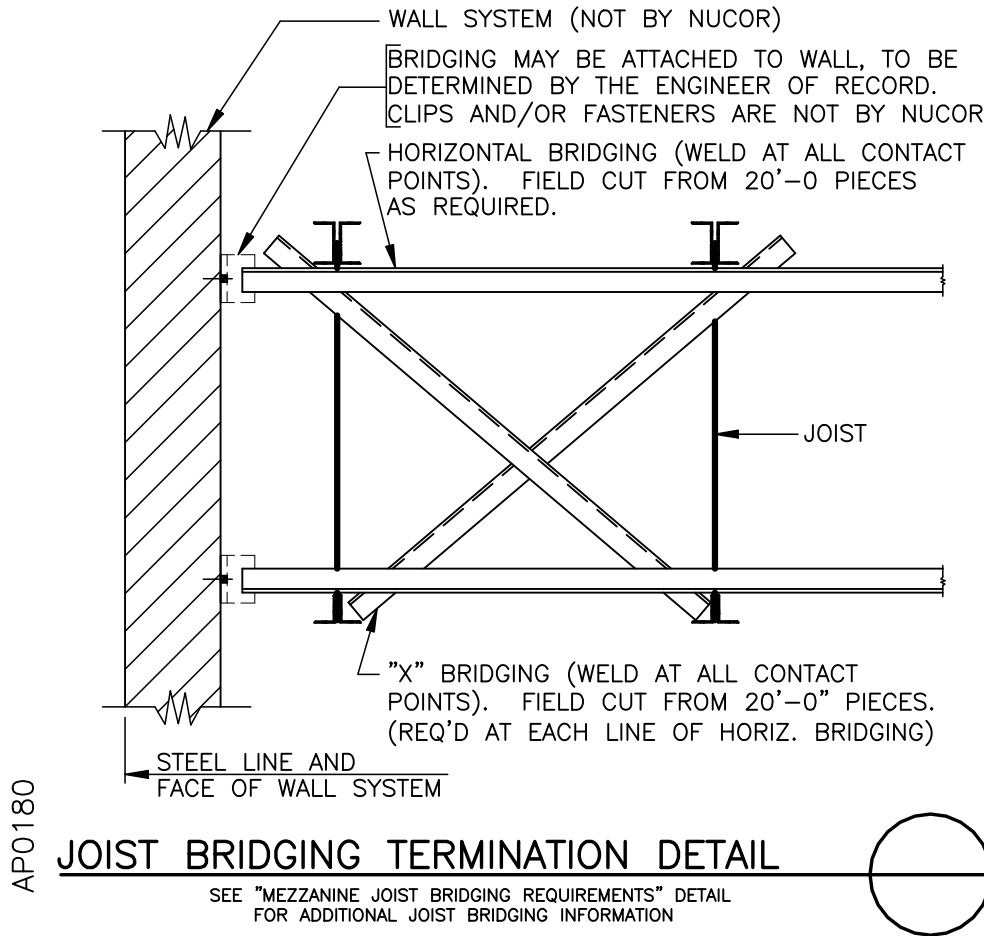
DETAIL NAME IF APPLICABLE

AP0170.DWG

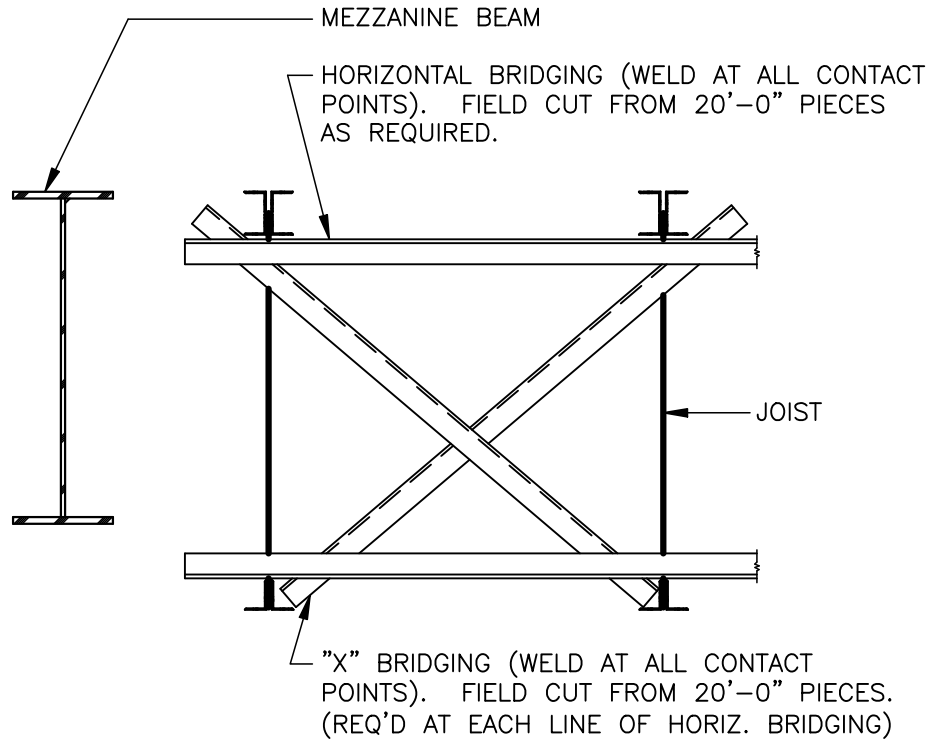
4.5.18

JOIST BRIDGING DETAILS

AP0180 – MEZZANINE JOIST BRIDGING REQUIREMENTS



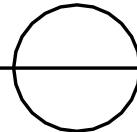
AP0190 – MEZZANINE JOIST BRIDGING TERMINATION DETAIL (AT GIRTS)



AP0190

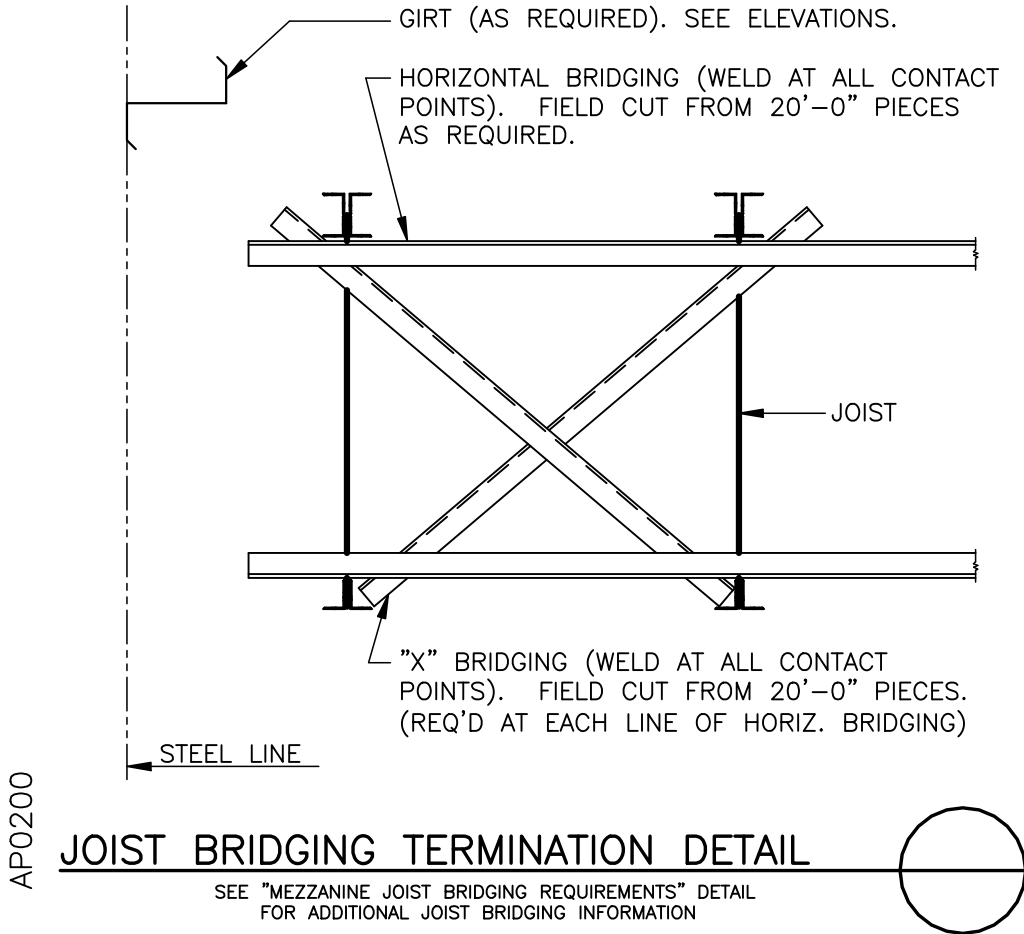
JOIST BRIDGING TERMINATION DETAIL

SEE "MEZZANINE JOIST BRIDGING REQUIREMENTS" DETAIL
FOR ADDITIONAL JOIST BRIDGING INFORMATION



LAST REVISION DATE: <u>03/14/01</u> BY: <u>CDM</u> CHK: <u>RJF</u>	DETAIL NAME IF APPLICABLE AP0190.DWG	4.5.20
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AP0200 – MEZZANINE JOIST BRIDGING TERMINATION DETAIL (AT MEZZANINE BEAM)



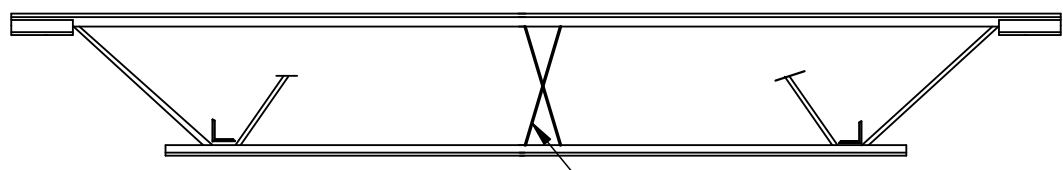
LAST REVISION DATE: <u>03/14/01</u> BY: <u>CDM</u> CHK: <u>RJF</u>	<u>DETAIL NAME IF APPLICABLE</u> AP0200.DWG	4.5.21
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AP0210 – MEZZANINE JOIST BRIDGING TERMINATION DETAIL (AT MASONRY WALL)

WELDED HORIZONTAL BRACING ANGLE SIZE: _____

TOP CHORD BRIDGING REQUIREMENTS:

_____ ROWS WELDED HORIZONTAL BRIDGING EQUALLY SPACED



BRIDGING TIE-OFF ALSO REQUIRED AT EACH END. (SEE "JOIST BRIDGING TERMINATION DETAIL")

WELDED "X" BRIDGING EVERY 12TH SPACE MAXIMUM. (SEE "X" BRIDGING DETAIL BELOW).

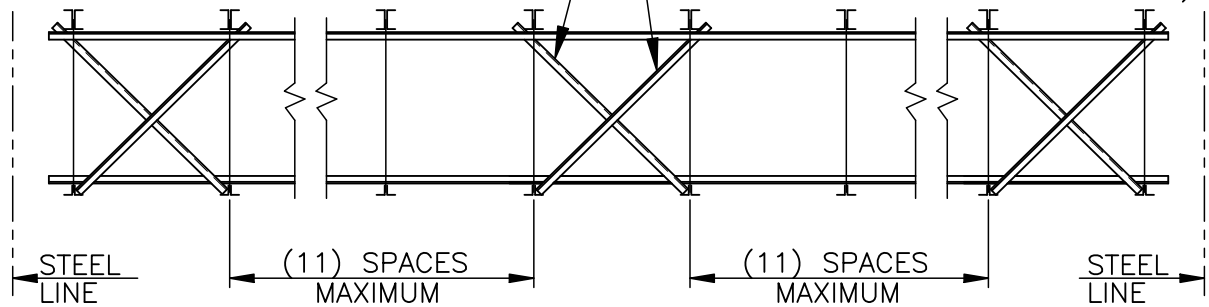
BOTTOM CHORD BRIDGING REQUIREMENTS:

_____ ROWS WELDED HORIZONTAL BRIDGING ALIGNED WITH TOP CHORD BRIDGING

"X" BRIDGING DETAIL:

"X" BRIDGING SHOWN AT ENDS FOR REFERENCE ONLY. REFER TO JOIST BRIDGING TERMINATION DETAIL FOR EXACT CONDITON.

WELDED "X" BRIDGING EVERY 12TH SPACE MAXIMUM. (PLACED AT EACH RUN OF HORIZONTAL BRIDGING). FIELD CUT FROM 20'-0" PIECES. (NOTE: IF MEZZANINE HAS LESS THAN 12 JOIST SPACES, "X" BRIDGING IS REQUIRED ONLY AT THE ENDS).



AP0210

MEZZANINE JOIST BRIDGING REQUIREMENTS