

TYPICAL SLAB REINFORCING AT GIRDERS AND AT  
BEAMS/GIRDERS ALONG COLUMN LINES  
(FOR CONCRETE THICKNESS OVER COMPOSITE DECK NOT EXCEEDING 3 1/2")

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COLUMN WEB PARALLEL TO GIRDER WEB                      COLUMN WEB PERPENDICULAR TO GIRDER WEB

**NOTE:**  
FOR OPENINGS LONGER THAN 7'-0" (PERPENDICULAR  
TO DECK SPAN) NOTIFY ENGINEER.

### TYPICAL BOLTED BEAM TO COLUMN FLANGE GRAVITY MOMENT CONNECTION

- NOTES:
- 1) DETAILS SHOWN ARE NOT FULLY DESIGNED AND DETAILED AND ARE CONCEPTUAL IN NATURE. STEEL FABRICATOR'S ENGINEER TO FULLY DESIGN AND DETAIL MOMENT CONNECTIONS FOR FORCES SHOWN ON PLAN. THIS INCLUDES FLANGE PLATES, BOLTS AND WELDS. (IF NO FORCE IS SHOWN, DESIGN FOR FULL CAPACITY OF BEAM).
  - 2) WELDS CAN BE SUBSTITUTED FOR BOLTS.
  - 3) BOLTS SHALL BE ASTM A325/A490-SC, WITH STANDARD SIZE HOLES IN BEAM.
  - 4) STEEL FABRICATOR TO PROVIDE DECK SUPPORT AS REQUIRED.

BEAMS DIFFERENT DEPTHS

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ANCH. ROD DIA.	DIMENSION "X"	MIN. PLATE WASHER		COLUMN MARK	WELD SIZE (IN.)	
		THICK.	SIZE		A	B
3/4"	1 1/2"	1/4"	2"	C1-C4	1/4	
1"	2 1/4"	3/8"	3"	C3A-C4A	5/16	
1 1/4"	2 1/2"	1/2"	3"	C6-C7	5/16	
1 1/2"	3"	1/2"	3 1/2"	C8, C10	1/4	
1 3/4"	3 1/4"	5/8"	4"	C9, C11		1/4
2"	4"	3/4"	5"			
2 1/2"	4 1/2"	7/8"	5 1/2"			

COLUMN BASE PLATE DETAIL  
(USE ONLY AT COLUMNS INDICATED)

TYPICAL COLUMN SPLICE DETAIL  
(COLUMNS WITH SAME DEPTH)

TYPICAL BEAM/GIRDER @ COLUMN  
FLEXIBLE MOMENT CONNECTION  
(TO BE USED @ ALL BEAM/GIRDER TO COLUMN CONNECTIONS.)

- NOTES:
- 1) ALL BOLTS ARE TO BE 3/4" A325-N IN STANDARD HOLES, U.N.O.
  - 2) ALL BOLTS TO BE IN STANDARD SIZE HOLES.
  - 3) SEE OTHER SECTIONS, IF CAP P IS REQUIRED.

TYPICAL ROOF OPENING & RTU  
CURB SUPPORT DETAIL - MAXIMUM  
BEAM SPACING OF 6'-0"

- NOTES:
- 1) PROVIDE AT PERIMETER OF ALL ROOFTOP MECHANICAL UNITS AND ROOF OPENINGS LARGER THAN 12' SQ. AS REQUIRED.
  - 2) FOR OPENINGS LARGER THAN 6' UP TO 12', PROVIDE 2'-0"x2'-0"x0.071" STEEL  $\square$  WELDED TO DECK, OR SCREWED w/ SHEET METAL SCREWS @ 6" o/c (PROVIDE 4x3x5/16 AT ROOF SUMPS).

SPECIFIED Δ WIDTH	5"	5.5"	6"	7"	8"	9"	10"
W (in.)	3	3	3.5	4	4.5	5	6
L (in.)	9.5	9.5	11	11	12.5	12.5	14

- NOTES:  
1) FOR ALL 1/2" & 3/4" THICK SPECIFIED Δ's, USE A 1/2" Ø W/ (4) 7/8" Ø BOLTS.  
2) FOR ALL 1" THICK SPECIFIED Δ, USE A 5/8" Ø W/ (4) 1" Ø BOLTS.

PLAN VIEW 'A' OF TOP PLATE

TYPICAL SECTION @ INTERIOR SLAB EDGE

- 1) GAGE  $\varnothing$  OR BENT  $\varnothing$  PER CHART FOR SPECIFIC CONDITION.
- 2) AT LOCATIONS WHERE ITEMS (RAILING POST, METAL STUD, ETC.) ARE CONNECTED TO VERTICAL FACE OF CLOSURE  $\varnothing$ , PROVIDE MIN. 1/4" BENT  $\varnothing$  w/ 1/2"x6" HEADED STUD @ 24" o/c. G.C. TO COORDINATE LOCATIONS.
- 3) PROVIDE AT ALL INTERIOR SLAB EDGES, U.N.O.
- 4) SEE SPECIFIC SECTIONS FOR ADDITIONAL REQUIREMENTS.

EDGE CLOSURE CHART							
SLAB DEPTH "D	OVERHANG "L"						
	≤ 3'	3' < L ≤ 5'	5' < L ≤ 9'	9' < L ≤ 12'	12' < L ≤ 15'	15' < L ≤ 18'	18' < L ≤ 24'
≤ 4"	16 Ga.	14 Ga.	10 Ga.	1/4"	1/4"	5/16"	
4" < D ≤ 6"	16 Ga.	14 Ga.	10 Ga.	1/4"	1/4"	5/16"	
6" < D ≤ 9"	12 Ga.	10 Ga.	10 Ga.	1/4"	1/4"	3/8"	

NOTE:  
ALL HOLES IF POSSIBLE SHALL BE LOCATED IN THE MIDDLE THIRD OF SPAN.

1. IF THE OPENINGS IN THE MIDDLE THIRD OF SPAN AND:
  - a) 'd' IS  $1/4$  D OR SMALLER - NO REINFORCEMENT IS REQUIRED.
  - b) 'd' IS LARGER THAN  $1/4$  D BUT SMALLER THAN  $1/3$  D -  
ADD WEB REINFORCING PLATE SAME THICKNESS ON ONE SIDE ONLY.
  - c) 'd' IS LARGER THAN  $1/3$  D - CONTACT STRUCTURAL ENGINEER.
2. IF THE OPENINGS ARE LOCATED OUT OF THE MIDDLE THIRD OF THE SPAN AND:
  - a) 'd' IS  $1/5$  D OR SMALLER - NO REINFORCEMENT IS REQUIRED.
  - b) 'd' IS LARGER THAN  $1/5$  D BUT SMALLER THAN  $1/4$  D -  
ADD WEB REINFORCING PLATE SAME THICKNESS ON ONE SIDE ONLY.
  - c) 'd' IS LARGER THAN  $1/4$  D - CONTACT STRUCTURAL ENGINEER.

### TYPICAL DETAIL FOR OPENINGS IN WEB OF STEEL BEAMS