

**TYPICAL CMU WALL ELEVATION**  
NO SCALE

NOTES:  
1. WALL SHOWN ABOVE IS A GENERIC INDICATION OF THE TYPICAL REINFORCING REQUIRED IN BOTH THE FIRST AND SECOND STOREYS.

CMU TYPE	VERTICAL REINFORCING	BOND BEAM REINFORCING	MAX. BOND BEAM SPACING
6"	#5 @ 32" OC	(1) #5	4'-0"
8"	#5 @ 32" OC	(1) #5	4'-0"
12"	(2) #5 @ 32" OC	(2) #5	4'-0"

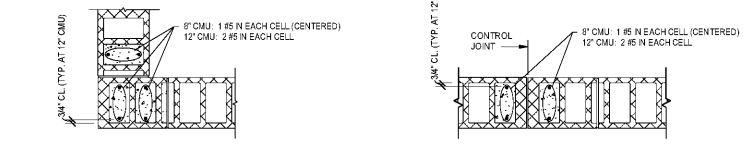
NOTES:  
1. PROVIDE BOND BEAMS AS SHOWN IN TYPICAL CMU WALL ELEVATIONS.  
2. REINFORCING SHOWN ABOVE IS MINIMUM REQUIRED. SEE SECTIONS FOR CONDITIONS WHERE ADDITIONAL REINFORCING IS REQUIRED.  
3. WHERE STEEL BEAM LINTELS OCCUR, PROVIDE CONTINUOUS BOND BEAM IN COURSE ABOVE BEAM.

CMU THICKNESS	OPENING WIDTH	LINTEL DEPTH	HORIZONTAL REINFORCING	STRUTS
6"	4'-0" OR LESS	8"	1 #4 BOTTOM	
6"	4'-11" TO 6'-0"	16"	1 #4 TOP 1 #4 BOTTOM	#3 @ 16"
6"	6'-11" TO 8'-0"	16"	1 #4 TOP 1 #5 BOTTOM	#3 @ 16"
8"	4'-0" OR LESS	8"	1 #5 BOTTOM	
8"	4'-11" TO 6'-0"	16"	1 #5 TOP 2 #5 BOTTOM	#3 @ 16"
8"	6'-11" TO 8'-0"	16"	1 #5 TOP 2 #5 BOTTOM	#3 @ 16"
12"	4'-0" OR LESS	8"	2 #5 BOTTOM	
12"	4'-11" TO 6'-0"	16"	1 #5 TOP 2 #5 BOTTOM	#3 @ 16"
12"	6'-11" TO 8'-0"	16"	1 #5 TOP 2 #5 BOTTOM	#3 @ 16"

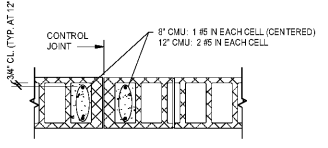


**LINTEL BEAM DETAIL**  
NO SCALE

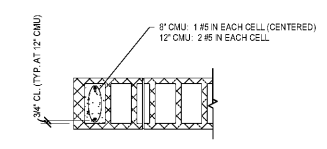
LINTEL SCHEDULE NOTES:  
1. USE LINTELS SHOWN IN SCHEDULES UNLESS ANOTHER LINTEL IS INDICATED IN PLANS OR SECTIONS ON THE STRUCTURAL DRAWINGS.  
2. SEE TYPICAL CMU WALL ELEVATION FOR CASES WHERE CMU LINTELS ARE PART OF CONTINUOUS BOND BEAMS. WHERE LINTELS ARE NOT PART OF CONTINUOUS BOND BEAMS, EXTEND BARS 24" PAST SIDES OF OPENING. GROUT BLOCK CELLS SOLD UNDER BEARING ENDS OF CMU LINTELS AT JAMBS OF OPENINGS.  
3. WHERE STRUCTURAL DRAWINGS INDICATE STEEL BEAM LINTELS IN CMU WALLS, PROVIDE THE FOLLOWING:  
A. A BOND BEAM IN THE FIRST COURSE ABOVE THE STEEL BEAM LINTEL. EXTEND BOND BEAM BARS 24" PAST SIDES OF OPENING.  
B. ASTM A706 WELDABLE VERTICAL WALL REINFORCING WELDED TO STEEL BEAM.



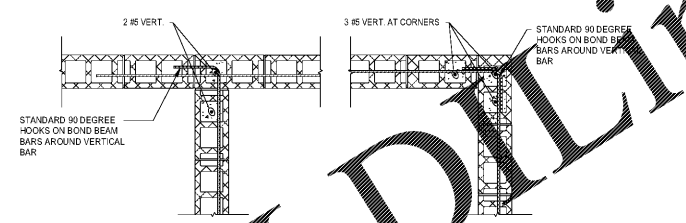
**VERTICAL REINFORCING AT CORNERS AND ENDS OF WALLS**  
NO SCALE



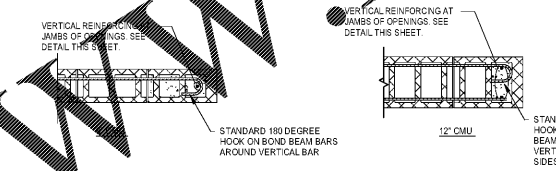
**VERTICAL REINFORCING AT CONTROL JOINTS**  
NO SCALE



**VERTICAL REINFORCING AT JAMBS OF OPENINGS**  
NO SCALE



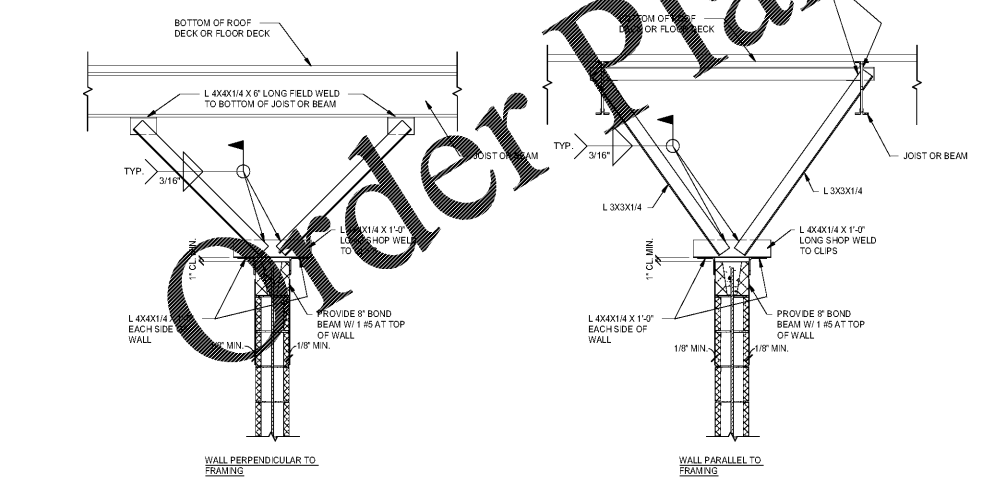
**BOND BEAM AND VERTICAL REINFORCING AT WALL INTERSECTIONS**  
NO SCALE



**BOND BEAM REINFORCING AT JAMBS OF OPENINGS**  
NO SCALE

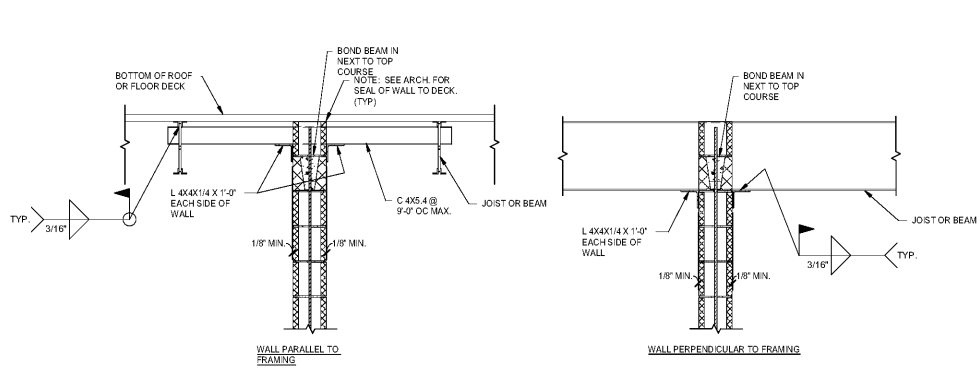
OPENING WIDTH	LINTEL	END BEARING	NOTES
6'-0" OR LESS	5'6" X 4' X 7' 5/8" BENT PLATE (LLH)	6"	
6'-11" TO 10'-4"	5'6" X 6' X 7' 5/8" BENT PLATE (LLH)	6"	

NOTES:  
1. USE LINTELS SHOWN IN SCHEDULE UNLESS ANOTHER LINTEL IS INDICATED ON THE PLAN OR SECTIONS.  
2. SEE THE ARCHITECTURAL DRAWING FOR OPENING LOCATIONS AND WIDTHS.  
3. ALL BRICK LINTELS SHALL BE HOT-DIPPED GALVANIZED.  
4. PROVIDE BRICK TIES IMMEDIATELY ABOVE LINTELS. SHORE LINTELS AT MIDSPAN AS REQUIRED TO PREVENT ROTATION UNTIL MASONRY ABOVE HAS SET FOR AT LEAST 7 DAYS.



**1 NON-LOAD-BEARING WALL BRACING DETAILS - WALLS NOT EXTENDING TO DECK**  
S4.02 3/4" = 1'-0"

NOTES:  
1. PROVIDE WALL BRACING AS SHOWN ABOVE IN STRAIGHT RUNS SO THAT WALL HAS BRACES AS SHOWN ABOVE, OR INTERSECTING WALLS, AT A MAXIMUM SPACING OF 9'-0" BETWEEN BRACES OR INTERSECTING WALLS.  
2. SEE THE ARCHITECTURAL DRAWINGS FOR TOP OF WALL ELEVATIONS.



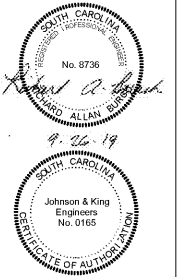
**2 NON-LOAD-BEARING WALL BRACING DETAILS - WALLS EXTENDING TO DECK**  
S4.02 3/4" = 1'-0"

NOTES:  
1. PROVIDE WALL BRACING AS SHOWN ABOVE IN STRAIGHT RUNS SO THAT WALL HAS BRACES AS SHOWN ABOVE, OR INTERSECTING WALLS, AT A MAXIMUM SPACING OF 9'-0" BETWEEN BRACES OR INTERSECTING WALLS.  
2. SEE THE ARCHITECTURAL DRAWINGS FOR TOP OF WALL ELEVATIONS.

**MASONRY NOTES:**  
1. MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530.1, SPECIFICATIONS FOR MASONRY STRUCTURES.  
2. MASONRY IS DESIGNED FOR  $f_m = 2000$  PSI.  
3. CONCRETE MASONRY UNITS (CMU) SHALL BE LIGHTWEIGHT UNITS IN ACCORDANCE WITH ASTM C90, GRADE N.  
4. FILL ALL BOND BEAMS, LINTELS, CELLS CONTAINING REINFORCEMENT AND CELLS BELOW GRADE, WITH 2500 PSI COARSE GROUT IN ACCORDANCE WITH ASTM C476, 9" TO 10" SLUMP. PLACE GROUT IN LIFTS NOT EXCEEDING 5 FEET.  
5. MORTAR FOR REINFORCED MASONRY SHALL BE TYPE S IN ACCORDANCE WITH ASTM C270.  
6. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. LAP ALL #4 BARS 2'-0" AND #5 BARS 2'-7".  
7. VERTICAL REINFORCING SHALL BE SECURED AGAINST DISPLACEMENT PRIOR TO GROUTING AT INTERVALS NOT EXCEEDING 9 FEET USING GALVANIZED STEEL WIRE CENTERING CLIPS.  
8. HORIZONTAL JOINT REINFORCEMENT:  
(A) JOINT REINFORCEMENT IN CMU WALLS SHALL BE LAPPED WITH 16" OC VERTICAL SPACING WITH 9 GAUGE SIDE RODS AND 9 GAUGE OR #30S. TRI-ROD TYPE SHALL BE USED AT CAVITY WALLS UNLESS OTHERWISE SHOWN ON THE ARCHITECTURAL DRAWINGS. LAP SPACINGS SHALL BE SHOWN ON THE ARCHITECTURAL DRAWINGS. LAP SPACINGS SHALL BE 12" MINIMUM. SIDE RODS SHALL HAVE 90 DEGREE HOOKS AT EXPOSED SIDES OF EXTERIOR WALLS AND 180 DEGREE HOOKS AT INTERIOR WALLS.  
(B) JOINT REINFORCEMENT IN EXTERIOR WALLS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A653, CLASS 82 (1.50 OZ/SP). JOINT REINFORCEMENT IN INTERIOR WALLS SHALL BE MILL GALVANIZED IN ACCORDANCE WITH ASTM A653, CLASS 55 (0.55 OZ/SP).  
(C) PROVIDE FACTORY FABRICATED CORNERS AT CMU WALL INTERSECTIONS.  
9. CONTROL JOINTS SHALL NOT EXCEED 40 FEET IN STRAIGHT RUNS OF WALL. JOINT LOCATIONS SHALL BE SHOWN ON THE ARCHITECTURAL DRAWINGS, CONSULT WITH THE ARCHITECT FOR APPROVAL OF JOINT LOCATIONS.  
10. SEE THE DRAWINGS OF ALL OTHER DISCIPLINES FOR OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS.  
11. VERIFY THE MASONRY SIZES AND CONDITIONS SHOWN ON THIS DRAWINGS MAY NOT BE PRESENT ON THIS JOB.  
12. CONDITIONS SHOWN ON THIS DRAWING REPRESENT MINIMUM REQUIRED REINFORCING. SEE THE OTHER STRUCTURAL DRAWINGS FOR SPECIAL CASES.



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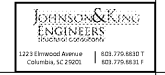
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DRAWN BY: TGD  
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MILLBROOK ELEMENTARY SCHOOL - ADDITIONS AND RENOVATIONS  
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TYPICAL MASONRY DETAILS

S4.02



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