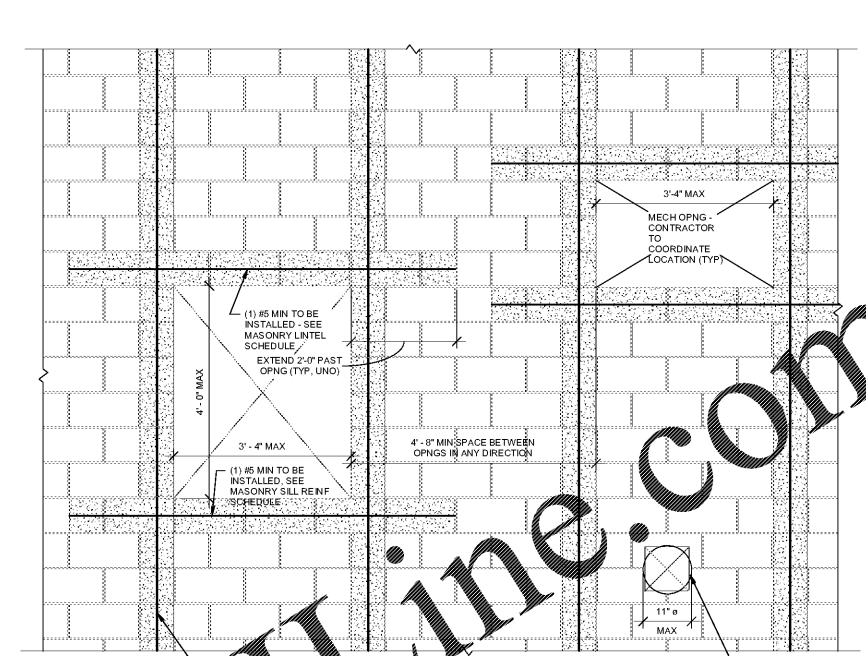
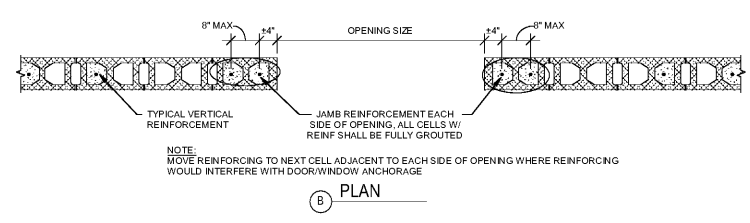
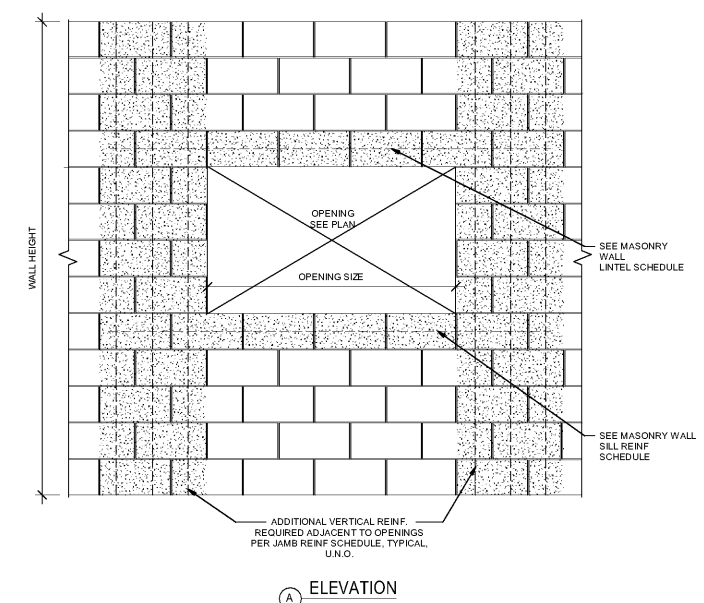
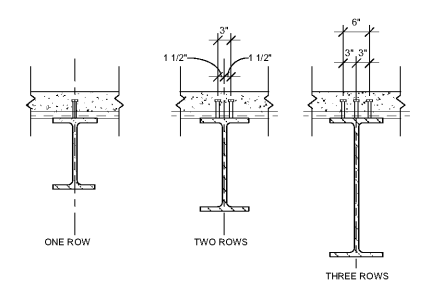


SCOPE DOCUMENTS
 The Construction Documents have not been completed therefore this drawing may be incomplete or not coordinated. The documents issued indicate the general scope of the Project. The Contractor is responsible for complete and coordinated pricing and Work and shall include all items necessary for the proper execution and completion of the Project, whether indicated or not. All components of the Project shall comply with any and all requirements of national, state, and local codes. The Contractor shall inform the Owner and Architect of any omissions, inaccuracies or errors in the information provided. If no notice is given and any omissions, inaccuracies or errors are discovered, the Architect's decision on items of Work included in the scope shall be binding on the Contractor, when consistent with the general scope and quality of the Project.

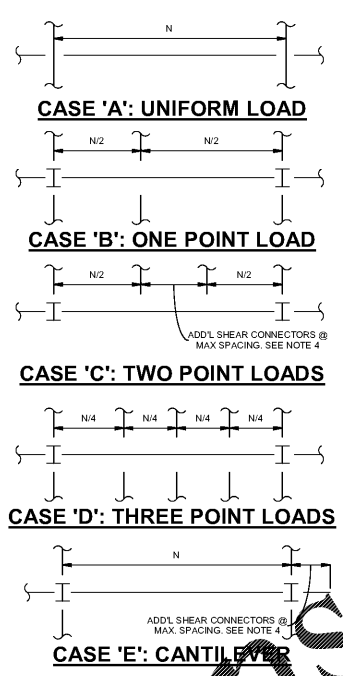
ISSUANCES		
No.	Drawing Issue Description	Date



TYP. MASONRY REINFORCING AT EXTERIOR OPENINGS



COMPOSITE STEEL FRAMING DETAILS



Shear Connector Spacing Criteria

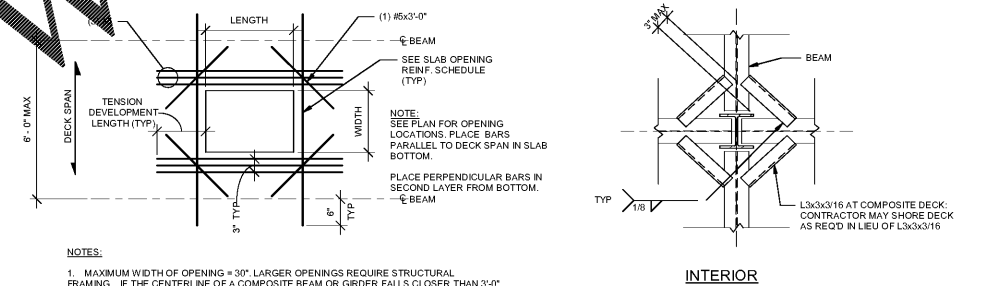
1. N = SPECIFIED NUMBER OF SHEAR CONNECTORS. REFER TO PLAN OR COMPOSITE BEAM SCHEDULE
 2. UNIFORM LOAD OR IN THE COMPOSITE BEAM SCHEDULE, SHEAR CONNECTORS SHALL BE DISTRIBUTED ALONG THE LENGTH OF THE BEAM AS SHOWN IN ACCOMPANYING DETAILS
 3. SHEAR CONNECTORS SHALL BE 3/4" DIAMETER x LENGTH PER THE FOLLOWING TABLE:

SLAB THICK "t"	FIN. STUD LENGTH
≥ 10"	8"
6 1/2" x 10"	5 1/2"
6" x 6 1/2"	5"
5 1/2" x 6"	4"
4 1/2" x 5 1/2"	3 1/2"

4. MAXIMUM SPACING OF SHEAR CONNECTORS SHALL BE AS FOLLOWS:
 a. BEAMS PERPENDICULAR TO DECK SPAN: 32"
 b. BEAMS PARALLEL TO DECK SPAN: 24"
 MINIMUM SPACING SHALL BE 4" o.c.
 5. WHERE STEEL DECK CORRUGATIONS DO NOT ALLOW FOR ANY SPACING OF SHEAR CONNECTORS, ONE STUD IN EACH FLUTE, ADDITIONAL STUDS IN A SECOND FLUTE (A THIRD ROW WHERE REQ'D) SHALL BE PLACED SUCH THAT THE CLOSEST DENSITY OF SHEAR CONNECTORS NEAR THE BEAM SURFACE IS NOT EXCEEDED AT ANY LOCATION IN THE SPAN.
 6. WHERE THE SPECIFIED NUMBER OF SHEAR CONNECTORS IS LESS THAN THE BEAM SPACING, DIVIDE THE MINIMUM SPACING (SEE NOTE 4) ADDITIONAL SHEAR CONNECTORS SHALL BE PROVIDED SUCH THAT THE MAXIMUM SPACING IS NOT EXCEEDED AT ANY LOCATION IN THE SPAN.
 7. SUBMIT SHOP DRAWINGS SHOWING LOCATION OF SHEAR CONNECTORS FOR EACH BEAM ON A PLAN FOR ENGINEER'S APPROVAL.
 8. SHEAR CONNECTORS IN ONE ROW SHALL BE PLACED DIRECTLY OVER THE BEAM WEB.
 9. PROVIDE MINIMUM 1" SPACING FROM EDGE OF FLANGE TO CENTERLINE OF STUD.
 10. REINFORCE BEAM WITH NATURAL CAMPER UP.
 11. FOR ALL COMPOSITE BEAMS USING CONCRETE SLAB AS IMPRES, THE BEAM-TO-COLUMN CONNECTION SHOULD DEVELOP THE END REACTION OF THE CONNECTED BEAM.
 12. END REACTION OF THE CONNECTED BEAM CAN BE OBTAINED BY MULTIPLYING FORM LOADS AS GIVEN IN PART 2 (BEAMS AND GIRDERS) OF THE AISC MANUAL OF STEEL CONSTRUCTION, 1989 (9TH EDITION), BY THE FOLLOWING FACTORS:
 W33 & W36 1.45
 W24 & W24 1.80
 W18 & W18 2.00
 W12 & W14 2.40
 MINIMUM SHEAR CAPACITY OF 12 KIPS SHALL BE PROVIDED FOR ALL BEAMS 8" TO 10" DEEP. THE REACTIONS GIVEN ON THE PLAN SUPERSEDE THIS NOTE.

NOTES:
 1. LOCATE OPENINGS BETWEEN VERT. WALL REINFORCING AS SHOWN. SEE PLAN FOR TYPICAL ALL REINFORCING SPACING.
 2. CONTRACTOR SHALL COORDINATE CONSTRUCT OPENINGS IN SHEARWALLS FOR MECHANICAL PENETRATIONS, INCLUDING DUCTS AND PIPING, THAT PENETRATE THOSE SHEARWALLS. OPENINGS FOR MECHANICAL PENETRATIONS SHALL BE CONSTRUCTED PER THE ABOVE DETAIL AND SHALL BE CONSTRUCTED DURING THE ERECTION OF THE WALLS. CONTRACTOR SHALL NOT PROVIDE SHEARWALL REINFORCING THAT HAS NOT BEEN DETAILED AND REINFORCED PER THE ABOVE DETAIL.
 3. WHEREVER POSSIBLE, CONTRACTOR SHALL "GANG" MECHANICAL DUCTS/PIPING TOGETHER TO REDUCE THE NUMBER OF PENETRATIONS REQUIRED.
 4. OPENINGS IN SHEARWALLS FOR MECHANICAL PENETRATIONS SHALL BE MINIMUM 16" MIN. TOP/WALL CONNECTION TO ROOF STRUCTURE.

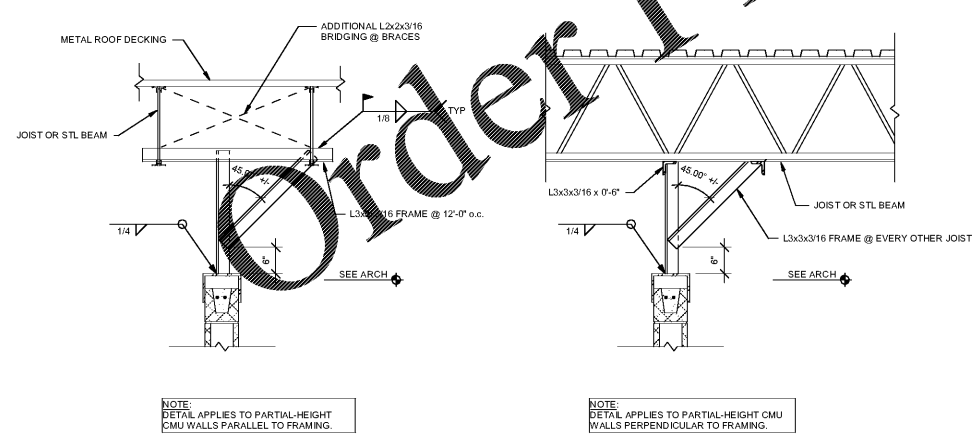
TYPICAL PLAN DETAIL FOR MECHANICAL PENETRATIONS IN SHEARWALLS



NOTES:
 1. MAXIMUM WIDTH OF OPENING = 30". LARGER OPENINGS REQUIRE STRUCTURAL FRAMING. IF THE CENTERLINE OF A COMPOSITE BEAM OR GIRDER FALLS CLOSER THAN 3'-0" TO THE FACE OF AN OPENING 10" OR LARGER, ADDITIONAL REINFORCEMENT MUST BE PROVIDED. OPENINGS LESS THAN 10" WIDE DO NOT REQUIRE ADDITIONAL REINFORCEMENT.
 2. WHEN THE CENTERLINE OF A COMPOSITE BEAM OR GIRDER IS WITHIN 3'-0" OF AN OPENING 10" OR LARGER THE FOLLOWING REINFORCEMENT IS REQUIRED:
 WIDTH OF OPENING PERPENDICULAR TO BEAM ADDITIONAL BOT. OF SLAB REINFORCEMENT (1/2 EACH SIDE OF OPENING)
 10" TO 14" (4) #9 (4) #9
 14" TO 16" (6) #9 (6) #9
 16" TO 20" (8) #9 (8) #9
 20" TO 24" (10) #9 (10) #9
 EXTEND #9 BARS 36" PAST EACH END OF OPENING LENGTH.
 3. NO OPENINGS TO BE CUT IN COMPOSITE FLOOR DECKING WITHOUT PRIOR APPROVAL OF THE ENGINEERING. CONTRACTOR TO FURNISH SHOP DRAWINGS SHOWING OPENING LOCATIONS.
 4. ALL OPENINGS LARGER THAN 10" x 10" SHALL BE PRE-FORMED AND ALL CONCRETE SHALL BE PLACED AND CURED PRIOR TO CUTTING THE METAL DECK.

TYPICAL RECTANGULAR SLAB OPENING DETAIL IN COMPOSITE FRAMING

TYPICAL ADD'L SLAB OPENING REINFORCING SCHEDULE	
MAXIMUM OPENING WIDTH PERPENDICULAR TO DECK	REINF. SIZE E.W.
10" TO 14"	1 - #5
15" TO 20"	1 - #6
21" TO 26"	2 - #5
27" TO 30"	2 - #6



NOTE: DETAIL APPLIES TO PARTIAL-HEIGHT CMU WALLS PARALLEL TO FRAMING.
 NOTE: DETAIL APPLIES TO PARTIAL-HEIGHT CMU WALLS PERPENDICULAR TO FRAMING.

TYPICAL WALL BRACING DETAIL

TYPICAL PLAN DETAIL FOR SUPPORT OF METAL ROOF DECK AT CONTINUOUS COLUMNS

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 ATLANTA PUBLIC SCHOOLS

TYPICAL DETAILS

Designer	12/19
Project Manager	03/16/20
Approver	03/16/20
Checker	03/16/20
Project Engineer	
Author	
Staff Engineer	

S4.4

PROJECT NUMBER: 1703 PROJECT NAME: TEMPLATE TESTING
 SHEET NUMBER: S4.4 TYPICAL DETAILS
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