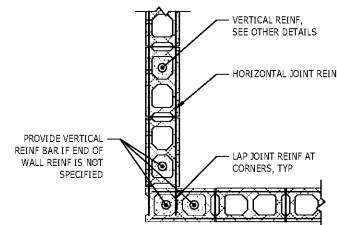
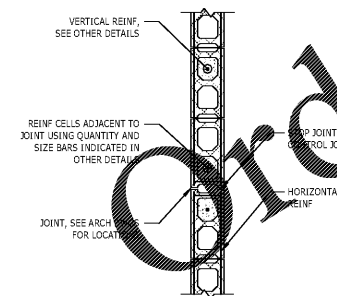


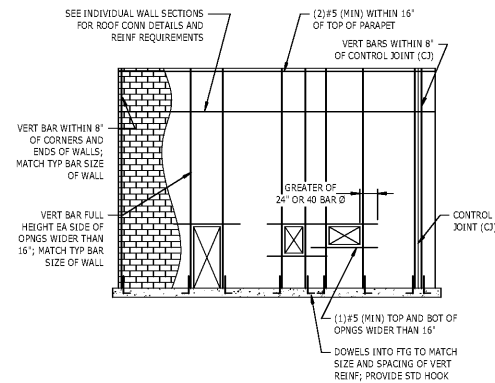
10 TYPICAL STEP IN CMU BOND BEAM
3/4" = 1'-0"



11 TYPICAL CMU CORNER
3/4" = 1'-0"

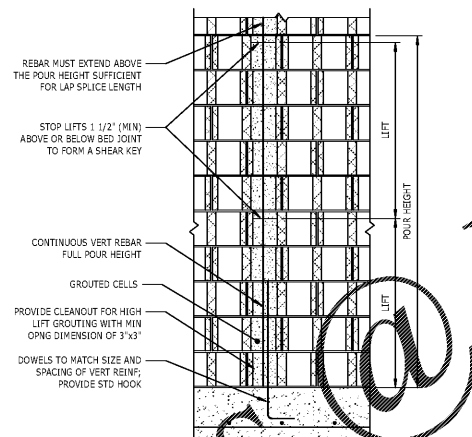


12 TYPICAL CMU CONTROL JOINT
3/4" = 1'-0"



7 MINIMUM CMU WALL REINFORCING REQUIREMENTS, SEISMIC DESIGN CATEGORIES A, B, AND C
3/4" = 1'-0"

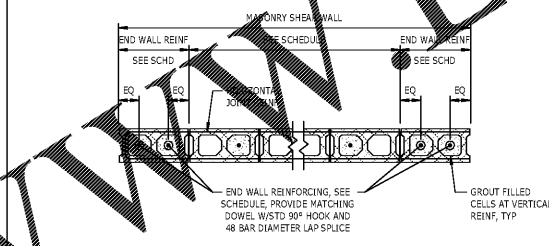
- NOTES:
- REINFORCING SHOWN IS A MINIMUM REQUIREMENT, INDIVIDUAL WALL SECTION REINFORCING REQUIREMENTS (SUCH AS NUMBER OR SIZE OF BARS) SHALL TAKE PRECEDENCE OVER THE REQUIREMENTS SHOWN HEREIN. SEE INDIVIDUAL WALL SECTIONS AND SCHEDULES FOR VERTICAL REINFORCING REQUIREMENTS.
 - ALL DISCONTINUOUS REINFORCEMENT SHALL BE LAPPED PER MINIMUM SPLICE AND EMBEDMENT LENGTH SCHEDULE.
 - VERTICAL STEEL MUST BE SECURED IN PLACE BEFORE THE BLOCKS ARE LAID. ALL VERTICAL REINFORCEMENT SHALL BE CONTINUOUS THROUGH MASONRY LINTELS AND BOND BEAMS, UNO.
 - AT OPENINGS WHERE STEEL BEAM LINTELS ARE PROVIDED, REINFORCE THE SAME CELL TO THE BEARING ELEVATION OF THE LINTEL, AND REINFORCE THE NEXT ADJACENT CELL PAST THE END OF THE BEAM FULL HEIGHT AS SHOWN IN THIS DETAIL.
 - DETAIL DOES NOT APPLY TO INTERIOR NON-LOAD BEARING PARTITION WALLS.
 - PROVIDE MINIMUM (2) LESS OF W.P. HORIZONTAL JOINT REINFORCING @ 16" OC VERTICALLY.



8 MASONRY GROUT REQUIREMENTS
3/4" = 1'-0"

- GENERAL REINFORCING REQUIREMENTS:
- REINFORCING CELLS SHALL BE GROUTED SOLID.
 - REINFORCING CELLS SHALL BE IN PROPER POSITION PRIOR TO PLACEMENT OF MORTAR. DO NOT PLACE DOWN INTO PREVIOUSLY PLACED GROUT. SAME REINFORCING CELLS FOR EMBEDDED SOLIDS AND FASTENERS.
 - MORTAR BEDDING UNDER THE FIRST COURSE OF BLOCK CELLS TO BE GROUTED SHALL PERMIT GROUT TO COME INTO DIRECT CONTACT WITH FOUNDATION. MORTAR HORIZONTAL ON CROSS WEBS ADJACENT TO ALL GROUTED CELLS.
 - MORTAR THAT PROJECTS MORE THAN 1/2" INTO CELLS THAT ARE TO BE GROUTED SHALL BE REMOVED.
 - GROUTED CELLS SHALL BE MECHANICALLY VIBRATED DURING PLACEMENT OF GROUT. TEN MINUTES AFTER PLACING GROUT, EACH GROUTED CELL SHALL BE RECONSOLIDATED WITH A VIBRATOR.
 - METAL LATH SHALL BE PLACED UNDER ALL BOND BEAMS IN ORDER TO CONTAIN GROUT. FELT OR OTHER BOND BREAKING MATERIAL IS NOT PERMITTED. AS AN ALTERNATIVE TO THIS, "U"-SHAPE LINTEL BLOCKS MAY BE USED FOR BOND BEAMS.
 - EITHER LOW LIFT GROUTING OR HIGH LIFT GROUTING PROCEDURES MAY BE UTILIZED, AT THE CONTRACTOR'S OPTION.
- LOW LIFT GROUTING PROCEDURE:
- LAY WALL TO MAXIMUM OF 5'-0".
 - CLEAN MORTAR AND OTHER DEBRIS FROM CELLS TO BE GROUTED.
 - PLACE REINFORCING BARS IN PROPER POSITION.
 - PLACE GROUT UP TO LIFT HEIGHT AND VIBRATE.
- HIGH LIFT GROUTING PROCEDURE:
- CLEANOUT OPENINGS SHALL BE PROVIDED IN THE FACE SHELLS OF THE BOTTOM COURSE OF ALL CELLS TO BE GROUTED. OPENINGS SHALL BE LARGE ENOUGH TO ALLOW REMOVAL OF DEBRIS.
 - LAY WALL TO MAXIMUM POUR HEIGHT AND CLEAN DEBRIS FROM OPENINGS. PLACE REINFORCING BARS IN PROPER POSITION.
 - CLEAN MORTAR AND OTHER DEBRIS FROM CELLS TO BE GROUTED.
 - MASONRY SHALL CURE A MINIMUM OF 4 HOURS PRIOR TO GROUTING.
 - PLACE GROUT TO THE FOLLOWING HEIGHTS: MAXIMUM LIFT HEIGHT IS 5'-0"; MAXIMUM POUR HEIGHT IS 12'-0" UNLESS EXPRESSLY COORDINATED WITH THE STRUCTURAL ENGINEER.
 - AFTER THE LIFT IS POURED, VIBRATE TO ELIMINATE ALL AIR VOIDS. WAIT BETWEEN 5' AND 10' MINUTES, THEN RECONSOLIDATE BY VIBRATING AGAIN. CONTINUE THIS PROCEDURE FOR FULL POUR HEIGHT, RECONSOLIDATE THE PRIOR LIFT BY EXTENDING THE VIBRATOR THROUGH THE CURRENT LIFT INTO THE PREVIOUS LIFT.
 - GROUT SLUMP MUST BE MAINTAINED BETWEEN 10 AND 11 INCHES FOR HIGH LIFT GROUTING.

	BRACED WALL HEIGHT	VERTICAL REINFORCING				HORIZONTAL REINFORCING
		8" CMU		12" CMU		
		VERTICAL REINFORCING	END WALL REINFORCING	VERTICAL REINFORCING	END WALL REINFORCING	
EXTERIOR BEARING, AND NON-CANTILEVERED WALLS	UP TO 16'-0"	#6@48"OC	(1)#6	#5@48"OC	(1)#5	9 GA LADDER TYPE @16" OC
	OVER 16'-0" TO 24'-0"	#7@32"OC	(1)#7	(2)#7@48"OC	(1)#7	9 GA LADDER TYPE @16" OC
	OVER 24'-0" TO 30'-0"	N/A	N/A	(2)#7@40"OC	(1)#7	9 GA LADDER TYPE @16" OC
	OVER 30'-0"	N/A	N/A	SEE SECTION S	MATCH VERTICAL	9 GA LADDER TYPE @16" OC
SHEAR WALLS	UP TO 16'-0"	#6@48"OC	(2)#6	#5@48"OC	(2)#5	9 GA LADDER TYPE @16" OC
	OVER 16'-0" TO 24'-0"	#7@32"OC	(2)#7	(2)#7@48"OC	(3)#7	9 GA LADDER TYPE @16" OC
	OVER 24'-0" TO 30'-0"	N/A	N/A	(2)#7@40"OC	(3)#7	9 GA LADDER TYPE @16" OC
	OVER 30'-0"	N/A	N/A	SEE SECTION S	MATCH VERTICAL	9 GA LADDER TYPE @16" OC
ALL OTHER WALLS SPANNING VERTICALLY	UP TO 16'-0"	#4@48"OC	(1)#4	#4@48"OC	(1)#4	9 GA LADDER TYPE @16" OC
	OVER 16'-0" TO 30'-0"	#6@48"OC	(1)#6	#5@48"OC	(1)#5	9 GA LADDER TYPE @16" OC
	OVER 30'-0"	SEE SECTIONS	MATCH VERTICAL	SEE SECTIONS	MATCH VERTICAL	9 GA LADDER TYPE @16" OC
ALL OTHER WALLS SPANNING HORIZONTALLY	ALL HEIGHTS	NO REINFORCING	NO REINFORCING	NO REINFORCING	NO REINFORCING	9 GA LADDER TYPE @16" OC



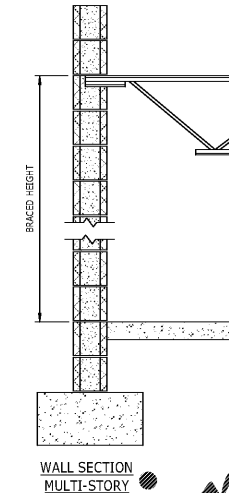
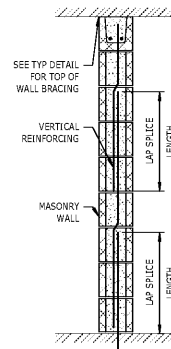
5 MASONRY SHEAR WALL
3/4" = 1'-0"

- NOTES:
- ALTERNATE COURSES (LAY BLOCK IN RUNNING BOND).
 - SEE SHEAR WALL SCHEDULE FOR HORIZONTAL REINFORCING.
 - AT 12" CMU BARS MAY BE DOUBLE. TWO BARS PER CELL IS A BAR "SET".

BAR SIZE	LAP SPLICE
#3	18"
#4	24"
#5	30"
#6	36"
#7	42"
#8	48"

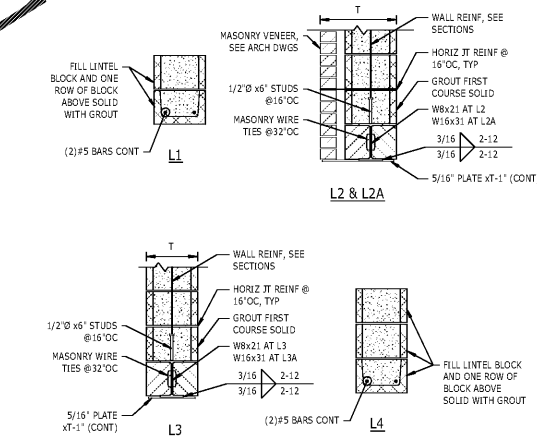
6 MINIMUM SPLICE AND EMBEDMENT LENGTH SCHEDULE
3/4" = 1'-0"

(DELETE THIS NOTE)
NOTE: UTILIZE 20% REDUCTION IN FS.



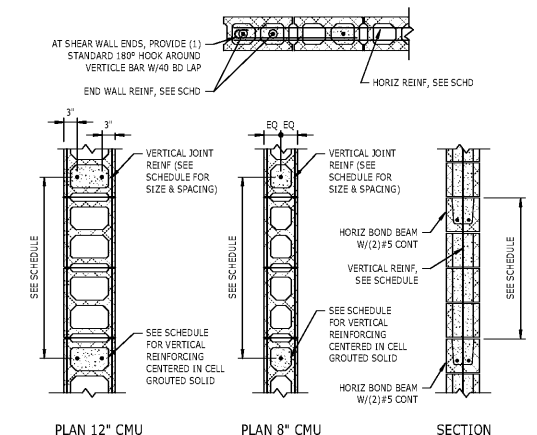
1 MASONRY WALL SCHEDULE
3/4" = 1'-0"

- NOTES:
- PROVIDE DOWELS EXTENDING INTO FOUNDATIONS FOR ALL VERTICAL REINFORCING BARS. SIZE AND LOCATION OF DOWELS TO MATCH VERTICAL REINFORCING.
 - ALL NON-LOAD BEARING, NON-SHEAR WALLS, INTERIOR PARTITION WALLS SHALL SPAN EITHER VERTICALLY OR HORIZONTALLY. SEE GUIDELINES BELOW FOR HORIZONTAL AND VERTICAL SPANNING WALLS IN DETAILS.
 - REFER TO PLAN FOR SHEAR WALL LOCATIONS. ENDS OF SHEAR WALLS OCCUR AT WALL INTERUPTIONS DUE TO COLUMNS, WINDOWS, DOORS, END OF WALLS, CONTROL JOINTS, EXPANSION JOINTS, ETC. REFER TO DETAILS FOR END OF WALL REINFORCING.
 - PROVIDE (2) #5 BARS IN BOND BEAM AT EACH FLOOR LEVEL AT TOPS OF WALLS AND AS INDICATED IN SECTIONS AND SCHEDULES.
 - PROVIDE (2) #5 BARS IN BOND BEAMS AT EACH FLOOR LEVEL AT TOPS OF WALLS AND AS INDICATED IN SECTIONS AND SCHEDULES.
 - ALL MASONRY TO BE CONSTRUCTED IN RUNNING BOND BEAM SYSTEM WITH INTERLOCKING CORNERS.
- HORIZONTAL SPANNING WALLS:
- WALLS CAN NOT SPAN HORIZONTALLY GREATER THAN 1/2 THE THICKNESS.
 - WALLS TO BE INTERLOCKED WITH L1 TYPE HORIZONTAL LADDER TYPE REINFORCING.
 - PROVIDE MASONRY WIRE TIES @24" OC, COLLAR ADJACENT TO HORIZONTALLY SPANNING MASONRY.
- VERTICAL SPANNING WALLS:
- ALL VERTICAL SPANNING WALLS TO BE ANCHORED TO STEEL STRUCTURE PER OTHER DETAILS.
 - ALL WALLS NOT EXTENDING TO STRUCTURE SHALL BE LATERALLY BRACED IN ACCORDANCE WITH OTHER DETAILS.



2 CMU WALL OPENING LINTEL SCHEDULE
3/4" = 1'-0"

- NOTES:
- FOR LINTELS IN CMU WALLS, MATCH CORRESPONDING WALL WIDTH.
 - 1" MINIMUM CLEAR SPACE SHALL BE PROVIDED AROUND ALL REINFORCING.
 - WALL ABOVE LINTEL SHALL BE REINFORCED VERTICALLY SIMILAR TO WALL ON EITHER SIDE OF LINTEL.
 - HORIZONTAL REINFORCING SHALL EXTEND BEYOND EDGE OF OPENING PER LINTEL/MMS REINFORCING DETAILS THIS SHEET.
 - UNLESS OTHERWISE NOTED SHOWN ON PLAN SHALL BE AS FOLLOWS (INTERIOR OR EXTERIOR WALLS):
 - FOR OPENINGS UP TO 5'-0", PROVIDE TYPE L1 LINTEL. FOR OPENINGS UP TO 5'-0" IN CMU + BRICK WALL, PROVIDE TYPE L1 LINTEL AND SEE LOOSE LINTEL SCHEDULE FOR SIZE OF ANGLE.
 - FOR OPENING 5'-1" TO 10'-0" IN CMU + BRICK WALLS, PROVIDE TYPE L2 LINTEL WITH 8" BEARING. FOR OPENINGS 5'-1" TO 10'-0" IN CMU WALLS, PROVIDE TYPE L3 LINTEL WITH 8" BEARING.
 - FOR OPENING 10'-1" TO 15'-0" IN CMU + BRICK WALLS, PROVIDE TYPE L2 LINTEL WITH 8" BEARING. FOR OPENINGS 10'-1" TO 15'-0" IN CMU WALLS, PROVIDE TYPE L3 LINTEL WITH 8" BEARING.
 - ALL EXTERIOR LINTELS SHALL BE HOT-DIPPED GALVANIZED.
 - STEEL FABRICATOR TO INSTALL WIRE TIES TO BEAM DURING LINTEL FABRICATION. COORDINATE LOCATION AND SPACING WITH MASONRY CONTRACTOR.



3 TYPICAL CMU WALL REINFORCING
3/4" = 1'-0"



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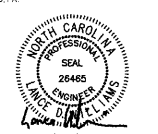
BID DOCUMENTS

MASONRY TYPICAL DETAILS

DATE: 4-5-2019
PROJECT NO: 16063

REVISIONS
NO. DATE DESCRIPTION:

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