



Revisions:

1	County Permit Review 1	11/20/20
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Project No: 080703  
Date: 10/09/2020

Sheet Name:  
GENERAL NOTES

**ADHESIVE ANCHORS (EXTERIOR):**

ADHESIVE ANCHORS SHALL BE DEWALT AC208+ ADHESIVE ANCHORING SYSTEM CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-4027 FOR THE MANUFACTURE AND INSTALLATION OF THE ANCHOR SYSTEM. ALL THREADED ROD SHALL BE ASTM F593 GROUP 2 CW1. NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F594 GROUP 2 CW1. ALL THREADED ROD SHALL BE CLEAN, STRAIGHT AND CONTINUOUSLY THREADED WITH UNC COARSE THREADS. INSTALL ALL ANCHORS WITH 4" EFFECTIVE EMBEDMENT UNLESS NOTED OTHERWISE. ALL HOLES SHALL BE HAMMER DRILLED. ANCHORS SHALL BE INSTALLED UNDER "WATER SATURATED CONCRETE" CONDITIONS. THE MINIMUM ALLOWABLE AGE OF THE CONCRETE IS 21 DAYS. ALTERNATIVELY, HILTI HIT-HY 200 ADHESIVE ANCHORING SYSTEM CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-3187 MAY BE SUBSTITUTED WITH THE SAME CONDITIONS AND EMBEDMENT DEPTH.

THE STRENGTH OF THE EXISTING CONCRETE DOES NOT NEED TO BE EVALUATED AND IS NOT JUDGED TO BE ADEQUATE IN THE OPINION OF THE RESPONSIBLE ENGINEER.

SPECIAL INSPECTION IS REQUIRED AS SPECIFIED IN THE ICC-ES REPORT.

"DRY HOLE" MEANS THAT THE CONCRETE HAS NOT BEEN EXPOSED TO MOISTURE FOR THE PRECEDING 14 DAYS.

INSTALLATION SHALL BE PERFORMED BY PERSONNEL CERTIFIED IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT.

**ADHESIVE ANCHORS (INTERIOR):**

ADHESIVE ANCHORS SHALL BE DEWALT AC208+ ADHESIVE ANCHORING SYSTEM CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-4027 FOR THE MANUFACTURE AND INSTALLATION OF THE ANCHOR SYSTEM. ALL THREADED ROD SHALL BE ASTM F1554, GRADE 36. NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A563A. ALL THREADED ROD SHALL BE CLEAN, STRAIGHT AND CONTINUOUSLY THREADED WITH UNC COARSE THREADS. INSTALL ALL ANCHORS WITH 4" EFFECTIVE EMBEDMENT UNLESS NOTED OTHERWISE. ALL HOLES SHALL BE HAMMER DRILLED. ANCHORS SHALL BE INSTALLED UNDER "WATER SATURATED CONCRETE" CONDITIONS. THE MINIMUM ALLOWABLE AGE OF THE CONCRETE IS 21 DAYS. ALTERNATIVELY, HILTI HIT-HY 200 ADHESIVE ANCHORING SYSTEM CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-3187 MAY BE SUBSTITUTED WITH THE SAME CONDITIONS AND EMBEDMENT DEPTH.

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**STRUCTURAL MASONRY**

SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION NOT PROVIDED IN THE SECTIONS BELOW.

**MATERIALS:**

- a. ALL CONCRETE MASONRY UNIT (CMU) WALL ASSEMBLIES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH ( $f_m$ ) OF 2000 PSI, UNLESS OTHERWISE NOTED.
- b. REINFORCING SHALL BE GRADE 60 STEEL CONFORMING TO ASTM A615, UNLESS OTHERWISE NOTED.

**CONSTRUCTION:**

- a. ALL MASONRY WALLS SHOWN ON STRUCTURAL PLANS ARE LOAD-BEARING, UNLESS NOTED OTHERWISE.
- b. SEE ARCHITECTURAL DRAWINGS FOR ALL OPENING DIMENSIONS AND LOCATIONS.
- c. ALL CELLS WITH VERTICAL REINFORCING AND ALL BOND BEAMS SHALL BE SOLID GROUDED PER THE FULL HEIGHT AND WIDTH OF WALL IN WHICH THEY ARE LOCATED.
- d. INTERIOR CMU PARTITION WALLS SHALL BE PARTIALLY GROUDED. ALL CELLS WITH VERTICAL REINFORCING AND BOND BEAMS WITH HORIZONTAL REINFORCING SHALL BE GROUDED SOLID. LINTELS SHALL BE GROUDED SOLID FOR THE DEPTH EQUAL TO HALF THE OPENING WIDTH BELOW UNLESS OTHERWISE NOTED.
- e. COMPRESSIVE STRENGTH OF CMU ASSEMBLIES SHALL BE VERIFIED BY PRISM TESTING BEFORE AND DURING CONSTRUCTION.
- f. RUNNING BOND SHALL BE USED FOR ALL MASONRY WORK UNLESS OTHERWISE NOTED.
- g. SEE ARCHITECTURAL DRAWINGS FOR MASONRY VENEER JOINT LOCATIONS.
- h. HOLLOW MASONRY UNITS SHALL BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL EDGES OF FACE SHELLS. WEBS SHALL ALSO BE BEDDED IN MORTAR AT ALL UNITS.
- i. GROUING OPERATIONS FOR ANY SECTION WALL SHALL BE COMPLETED OVER 1-DAY DURATION WITH NO INTERRUPTIONS IN GROUING PLACEMENT GREATER THAN 1-HOUR. GROUT PLACEMENT SHALL BE STOPPED 1 1/2" BELOW THE TOP COURSE OF BLOCK OR 1/2" BELOW THE TOP OF BOND BEAMS TO BE COMPLETED DURING THE OPERATIONS THAT DAY TO FORM A KEY.

**REINFORCING:**

TYPICAL REINFORCING:  
8" CMU:  
VERTICAL BARS: #5 AT 48" O.C. AT CENTERLINE  
HORIZONTAL BARS: (2) W1.7 WIRES AT 16" O.C.

- a. MINIMUM WALL REINFORCING NOTED IN THIS SECTION SHALL BE PROVIDED TYPICALLY, UNLESS OTHERWISE NOTED ON PLANS, DETAILS AND WALL ELEVATIONS.
- b. PROVIDE JOINT REINFORCING AT ALL WALLS PER SPECIFICATIONS IN ADDITION TO HORIZONTAL REINFORCING REQUIREMENTS.
- c. WHERE SINGLE BAR HORIZONTAL REINFORCING IS PROVIDED, STAGGER THE PLACEMENT OF THE BARS EITHER SIDE OF THE VERTICAL BARS OVER THE HEIGHT OF THE WALL.
- d. PROVIDE ADDITIONAL REINFORCING AT WALL ENDS, OPENING JAMBS AND INTERSECTIONS.
- e. ADDITIONAL VERTICAL REINFORCING EACH SIDE OF OPENINGS SHALL RUN CONTINUOUS BETWEEN FOUNDATION AND FLOOR/ROOF AND FLOOR-TO-FLOOR UNLESS SPECIFICALLY NOTED OTHERWISE.
- f. WHEN EACH FACE VERTICAL REINFORCING IS REQUIRED PLACE BAR CENTERLINES 2 5/8" FROM EACH FACE OF MASONRY, UNLESS OTHERWISE NOTED.
- g. LINTELS SHALL BE REINFORCED WITH (2) #5 X CONTINUOUS HORIZONTAL BARS IN LINTEL BLOCKS, UNLESS OTHERWISE NOTED (SEE LINTEL SCHEDULE) EXTEND THE EDGES OF OPENING BELOW EACH SIDE WITH STANDARD ACI 90 DEGREE DOWNWARD HOOKS. WHERE LESS THAN 3'-4" IS NOT AVAILABLE BEFORE AN ADJACENT WALL END OR OPENING, EXTEND REINFORCING TO 3' CLEAR FROM ADJACENT WALL END OR OPENING EDGE AND PROVIDE STANDARD 90-DEGREE DOWNWARD HOOK. THIS MINIMUM LINTEL REINFORCING IS REQUIRED AT ALL NON-LOAD BEARING WALL AND INTERIOR PARTITION LINTEL CONDITIONS AS WELL. ALL LINTEL BEAMS SHALL HAVE A MINIMUM DEPTH OF 24 INCHES AND SHALL BE GROUDED SOLID FOR THEIR FULL LENGTH INCLUDING 3'-4" PAST EACH OPENING EDGE, FOR BOTH LOAD AND NON-LOAD BEARING WALLS APPLICATIONS.
- h. LINTELS SHALL HAVE #4 VERTICAL BAR STIRRUPS AT 16" ON CENTER ABOVE THE OPENING, UNLESS NOTED OTHERWISE. THESE BARS SHALL HAVE 180 DEGREE HOOKS AT THEIR ENDS ABOVE THE OPENING. 3 INCHES CLEAR WITH HOOD DIRECTIONS ALTERNATING WITH EVERY OTHER BAR. THESE BARS EXTEND 48 INCHES MINIMUM ABOVE THE OPENING, WHERE 48 INCHES IS NOT AVAILABLE, PROVIDE 135 DEGREE HOOKS AROUND TOP COURSE BOND BEAM REINFORCING. FOR LINTEL SECTIONS ABOVE OPENINGS THAT ARE GREATER THAN 48 INCHES TALL, PROVIDE TYPICAL VERTICAL AND HORIZONTAL REINFORCING IN ADDITION TO THE #4 VERTICAL BAR STIRRUPS DESCRIBED ABOVE. LINTEL STIRRUP REINFORCING SHALL BE PROVIDED AT BOTH LOAD AND NON-LOAD BEARING WALL APPLICATIONS.
- i. SILLS SHALL BE REINFORCED WITH (2) #5 X CONTINUOUS HORIZONTAL BARS IN BOND BEAMS AND EXTEND 3'-4" PAST THE EDGE OF OPENING ABOVE EACH SIDE, WHERE LESS THAN 3'-4" IS NOT AVAILABLE BEFORE AN ADJACENT WALL END OR OPENING, EXTEND REINFORCING TO 3' CLEAR FROM ADJACENT WALL END OR OPENING EDGE AND PROVIDE STANDARD 90-DEGREE DOWNWARD HOOK.
- j. PROVIDE ONE BOND BEAM WITH (2) #5X CONTINUOUS HORIZONTAL REINFORCING BARS AT TOPS OF WALLS.
- k. AT CORNERS, PROVIDE ADDITIONAL CORNER BARS TO MATCH THE STANDARD SPACING OF HORIZONTAL WALL REINFORCING, UNLESS OTHERWISE NOTED. THE LEGS OF THE CORNER BARS SHALL BE MINIMUM 10" LAP LENGTH EACH WAY FROM A STANDARD ACI REINFORCING BEND AT THE CORNER AND MATCH THE CONNECTION OF THE WALL CORNER PLAN LAYOUT.
- l. SEE DRAWING DETAIL SHEETS FOR ADDITIONAL REINFORCING REQUIREMENTS, ESPECIALLY AT JOIST, BEAM AND GIRDER CONNECTION LOCATIONS.
- m. FOUNDATION DOWELS SHALL BE PROVIDED TO MATCH THE SIZE AND SPACING OF THE VERTICAL WALL REINFORCING ABOVE. THE DOWELS EXTEND UPWARD FROM THE TOP OF FOUNDATION OR FOUNDATION WALL TO PROVIDE ADEQUATE LAP LENGTH WITH THE VERTICAL WALL BARS PER THE SCHEDULE BELOW AND EXTEND DOWNWARD TO BE 3' CLEAR FROM THE BOTTOM OF FOOTING WITH STANDARD ACI 90-DEGREE HOOKS, TYPICAL UNLESS NOTED OTHERWISE. DOWELS FROM FOUNDATION OR FOUNDATION WALLS SHALL BE INSTALLED VERTICAL, NO MORE THAN 1 HORIZONTAL TO 6 VERTICAL OUT OF PLUMB.
- n. DOWELS PERPENDICULAR TO MASONRY WALLS FOR SLABS OR OTHER CONCRETE CONSTRUCTION SHALL HAVE STANDARD ACI 318 90-DEGREE DOWNWARD HOOKS AROUND HORIZONTAL REINFORCING AND SHALL EXTEND A LAP LENGTH INDICATED IN THE SCHEDULE BELOW FROM THE FACE OF MASONRY WALL, UNLESS OTHERWISE NOTED. DOWELS SHALL BE SPACED TO MATCH THE VERTICAL WALL REINFORCING BELOW THE SLAB BEING CONNECTED, UNLESS OTHERWISE NOTED.
- o. ALL CELLS OF ALL LOAD BEARING WALLS SHALL BE FILLED SOLID WITH CONCRETE GROUT FOR THE FULL LENGTH AND HEIGHT OF THE WALLS.
- p. ALL VERTICAL AND HORIZONTAL REINFORCING IS CONTINUOUS. PROVIDE LAP SPLICES AS REQUIRED FOR THE LENGTHS INDICATED IN THE SCHEDULE BELOW. COORDINATE LAP SPlice LOCATIONS WITH FLOOR ELEVATIONS, TOPS OF WALLS AND LINTEL HORIZONTAL REINFORCING AS REQUIRED. SEE WALL ELEVATIONS FOR ANY SPECIFIC LOCATIONS AS INDICATED.
- q. ALL REINFORCING STEEL SHALL BE SECURED AGAINST DISPLACEMENT PRIOR TO AND DURING GROUING OPERATIONS BY WIRE POSITIONERS. POSITIONERS SHALL BE SPACED AT 24" ON CENTER ALONG EACH VERTICAL BAR LOCATION.
- r. REINFORCING BARS IN SOLID WALLS SHALL NEVER BE CUT TO ALLOW FOR WORK FROM OTHER TRADES WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.

**LAP SPLICE SCHEDULE:**

VERTICAL TENSION AND COMPRESSION BARS:				
BAR SIZE	#4	#5	#7	#8
LENGTH (IN.)	24	40	49	91
				108
				143
HORIZONTAL TENSION AND COMPRESSION BARS:				
BAR SIZE	#4	#5		
LENGTH (IN.)	37	70		

- a. SPLICES OF VERTICAL BARS SHALL BE PLACED NEXT TO EACH OTHER IN PLAN TO MAINTAIN THE SAME CLEAR DISTANCE TO THE FACE OF THE MASONRY BLOCK UNITS, NOT INSET INTO THE CELL SUCH THAT THE CLEAR SPACING BETWEEN ADJACENT BARS IS REDUCED.
- b. SPLICES OF HORIZONTAL BARS SHALL BE PLACED ABOVE OR BELOW THE BAR TO BE SPLICED TO MAINTAIN THE SAME CLEAR DISTANCE TO THE FACE OF THE MASONRY BLOCK UNITS, NOT INSET INTO THE CELL SUCH THAT THE CLEAR SPACING BETWEEN ADJACENT BARS IS REDUCED.

**MASONRY VENEER LINTEL SUPPORT:**

THE STEEL FABRICATOR SHALL SUPPLY LOOSE LINTEL ANGLES OVER ALL BRICK MASONRY OPENINGS AND RECESSES FOR BRICK VENEER. PROVIDE ANGLE SIZE AND BEARING LENGTH. EACH END PER THE SCHEDULE. ALL STEEL MASONRY VENEER SUPPORT ANGLES (OR OTHER SPECIFIED STEEL SECTIONS) SHALL BE GALVANIZED, UNLESS NOTED OTHERWISE.

**ANCHORS:**

- a. ALL POST INSTALLED ANCHORS SHALL BE INSTALLED INTO SOLID-GROUDED MASONRY CELLS PER MANUFACTURER'S RECOMMENDATIONS.
- b. EXPANSION AND EPOXY ANCHORS SHALL BE THE SIZE AND EMBEDMENT LENGTH AS SPECIFIED ON THE DRAWINGS. PROVIDE ANCHORS WITH THE FOLLOW MINIMUM ALLOWABLE STRESS DESIGN CAPACITIES: TENSION = 1500 POUNDS, SHEAR = 1000 POUNDS.
- c. CAST ANCHORS AND BOLTS SHALL BE INSERTED INTO WALL FOR THE EMBEDMENT DEPTH SHOWN IN THE DRAWING DETAILS. 5" MINIMUM. AND SURROUNDING CELLS WITHIN 1.5 TIMES THE EMBEDMENT DEPTH SHALL BE GROUDED SOLID TO ENCAPSULATE THE ANCHOR.

**SUBMITTALS:**

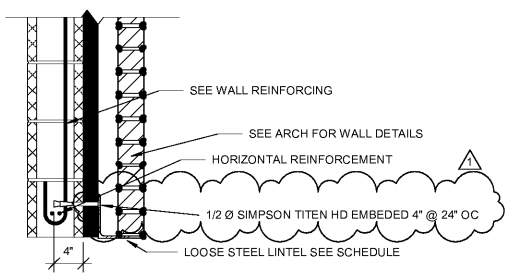
SUBMIT SHOP DRAWINGS THAT DEPICT REINFORCING LAYOUT FOR CMU WALLS THAT INDICATE THE TYPICAL REINFORCING AND ADDITIONAL REINFORCING REQUIREMENTS CALLED FOR IN THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.

**MISCELLANEOUS:**

- a. EMBEDDED PLATES WITH HEADED STUDS, ANCHOR RODS OR DEFORMED BAR ANCHORS SHALL BE WET SET IN BOND BEAMS, AFTER GROUT PLACEMENT WHILE THE GROUT IS STILL PLASTIC.
- b. PRIOR TO INSTALLING HOLES GREATER THAN 4 INCHES IN DIAMETER IN MASONRY WALLS THAT WERE NOT SPECIFICALLY DESIGNED FOR IN THE STRUCTURAL DRAWINGS, CONTACT STRUCTURAL ENGINEER OF RECORD FOR APPROVAL AND INSTALLATION REQUIREMENTS.

**ABBREVIATIONS:**

CL	CENTERLINE
°F	DEGREES FAHRENHEIT
Ø	DIAMETER
"	INCH
(E)	EXISTING
(N)	NEW
ACI	AMERICAN CONCRETE INSTITUTE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BOT	BOTTOM
C	CHANNEL
CET	CRITICAL EXPOSURE TEMPERATURE
COL	COLUMN
CONC	CONCRETE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION WELD
CLR	CLEAR, CLEARANCE
DIA	DIAMETER
DO	DITTO
DWG	DRAWING
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
EQ	EQUAL, EQUALLY
EW	EACH WAY
FDN	FOUNDATION
FT	FULLY TENSIONED
$f_m$	SPECIFIED COMPRESSIVE STRENGTH OF CLAY MASONRY OR CONCRETE MASONRY, PSI
$f_{mAC}$	SPECIFIED COMPRESSIVE STRENGTH OF AAC MASONRY, PSI
GA	GAUGE
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION (TUBES)
ICC-ES	INTERNATIONAL CODE CONSULTING EVALUATION SERVICE
KIP	THOUSAND POUNDS FORCE
KSI	THOUSAND POUNDS PER SQUARE INCH
L	LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAX	MAXIMUM
MIN	MINIMUM
NPI	MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS
NOT	NOT TO SCALE
OB	ON CENTER
OP	OPPOSITE END (MIRRORED)
PL	PLATE
PSI	POUNDS PER SQUARE INCH
PJP	PARTIAL JOINT PENETRATION WELD
RES	REDUCED BEAM SECTION
REF	REFERENCE
REIN	REINFORCING
REQD	REQUIRED
REV	REVISION
SC	SLIP CRITICAL
SH	SHEET
SIM	SIMILAR
SME	SUBJECT MATTER EXPERT
SQ	SQUARE
STD	STANDARD
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WIDE FLANGE ROLLED STEEL BEAM
WP	WORKING POINT
WT	STRUCTURAL TEE
WWF	WELDED WIRE FABRIC
XS	EXTRA-STRONG



**1 TYPICAL LINTEL DETAIL**  
SCALE: 1" = 1'-0"

LOOSE LINTEL SCHEDULE			
OPENING WIDTH	ANGLE SIZE	BEARING LENGTH	BRICK SETBACK
11'-5" AND LESS	L6 X 6 X 5/16	8"	3/4"

Order Plans