MASONRY CONSTRUCTION

1. MASONRY WORK SHALL CONFORM TO THE LATEST EDITIONS OF ACI 530, 530.1, AND IBC CHAPTER 21.
2. CONCRETE MASONRY UNITS SHALL BE NORMAL WEIGHT UNITS CONFORMING TO ASTM C331 WITH A DRY NET WEIGHT OF NOT MORE THAN 125 PCF.

   HOLLOW LOAD-BEARING: ASTM C-90. WITH A MINIMUM COMPRESSIVE STRENGTH OF 2150 PSI, EACH UNIT, NET CROSS-SECTIONAL AREA. ALL LOAD-BEARING BLOCK UNITS SHALL BE MANUFACTURED SO THE CORES AND WEBS LINE UP WHEN LAID IN RUNNING BOND.

   SOLID LOAD BEARING: PROVIDE UNITS COMPLYING WITH ASTM C-145, GRADE N-1 WITH A MINIMUM COMPRESSIVE STRENGTH OF 2150 PSI, EACH UNIT, NET CROSS-SECTIONAL AREA.

   HOLLOW NON-LOAD BEARING: ASTM C-129.
3. MASONRY SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH (f'm): 1600 PSI FOR CONCRETE MASONRY.
4. MORTAR FOR LOAD BEARING WALLS, EXTERIOR WALLS AND VERTICALLY REINFORCED MASONRY WALLS SHALL BE ASTM C-270 TYPE S, WITH A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI IN 28 DAYS.
5. CONCRETE MASONRY UNITS SHALL BE MANUFACTURER'S STANDARD UNITS WITH NOMINAL FACE DIMENSIONS OF 16" LONG x 8" HIGH (15-5/8"x7-5/8" ACTUAL), UNLESS OTHERWISE SHOWN.
6. PROVIDE SPECIAL SHAPES WHERE SHOWN AND WHERE REQUIRED FOR LINTELS, CORNERS, JAMBS, SASH, CONTROL JOINTS, HEADERS, BONDING AND OTHER SPECIAL CONDITIONS.
7. ALL MASONRY WALLS SHALL HAVE GALVANIZED HORIZONTAL REINFORCING.

   A. LADDER TYPE, 3/16" SIDE RODS AND #9 GAGE CROSS RODS SPACED @ 16" ON CENTER VERTICALLY.
8. HORIZONTAL REINFORCEMENT SHALL BE PLACED IN CONTINUOUS MASONRY COURSES CONSISTING OF BOND BEAM OR THROUGH BLOCK UNITS AND GROUTED IN PLACE. CONTRACTOR SHALL PLACE ANCHOR BOLTS OR EMBEDDED IN ITEMS IN COARSE GROUT AS NOTED ON THE DRAWINGS.
9. PROVIDE AN ADDITIONAL #5 VERTICAL REINFORCEMENT BAR GROUTED SOLID AT EACH JAMB OF ALL OPENINGS IN EXTERIOR, INTERIOR, LOAD BEARING AND ALL REINFORCED MASONRY WALLS.
10. SPLICED WIRE REINFORCEMENT SHALL BE LAPPED AT LEAST 6" AND CONTAIN AT LEAST ONE CROSS WIRE OF EACH PIECE OF REINFORCEMENT WITHIN THE 6".
11. ALL UNITS SHALL BE LAID WITH FULL MORTAR COVERAGE ON HEAD, BED (FACE SHELLS), WEBS AND COLLAR JOINTS, UNLESS NOTED OTHERWISE.
12. ALL MASONRY GROUT SHALL BE 3000 PSI MIX.
13. LAP ALL #4 BARS 2'-1" AND #5 BARS 2'-7" MINIMUM.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC "SPECIFICATIONS FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.
2. ALL STRUCTURAL STEEL, BOLTS, ETC. SHALL BE DOMESTICALLY PRODUCED.
3. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY, AWS D1.1, LATEST EDITION.
4. BOLTS AND BOLTED CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" AS APPROVED BY THE COUNCIL ON RIVETED AND BOLTED JOINTS. USE BEARING TYPE BOLTS WITH THREADS EXCLUDED FROM THE SHEAR PLANE. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 (36 KSI) OR ASTM F-1554 AS SPECIFIED ON THE DRAWINGS.
5. STRUCTURAL STEEL: ASTM A992 (Fy=50 KSI) – ROLLED STEEL SHAPES UNLESS NOTED ON THE DRAWING.
   ASTM A36 (Fy=36 KSI) – ROLLED STEEL PLATES, CHANNELS, ANGLES, BARS AND RODS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
   ASTM A53, TYPE E OR S, GRADE B – STEEL PIPE.
   ASTM A500, GRADE B – TUBING.
   EXPANSION BOLTS – HILTI "KWIK-BOLT II" OR APPROVED EQUAL.
   ADHESIVE ANCHORS – HILTI HVA ADHESIVE ANCHORING SYSTEM OR APPROVED EQUAL. PROVIDE ICC ESL REPORT ON ANCHORS WITH SHOP DRAWING SUBMITTAL
6. WELDING ELECTRODES SHALL BE E70 XX (LOW HYDROGEN) OR BETTER. FOR WELDING SYMBOLS WITH NO LENGTH DIMENSION GIVEN, THE WELDING SHALL BE CONTINUOUS BETWEEN ABRUPT CHANGES IN DIRECTION. WELDS NOT OTHERWISE NOTED SHALL BE 1/4" IN SIZE.
7. IN GENERAL, IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT ALL SHOP CONNECTIONS BE WELDED AND ALL FIELD CONNECTIONS BE BOLTED EXCEPT WHERE NOTED OTHERWISE.
8. ALL BOLTS SHALL BE TIGHTENED TO A "SNUG-TIGHT" CONDITION, UNLESS NOTED OTHERWISE. BOLTED CONNECTIONS FOR BOLTED MOMENT CONNECTIONS, BRACING DETAILS AND COLUMN SPLICES SHALL BE CONSIDERED "SLIP-CRITICAL" WITH THE BOLTS FULLY PRE-TENSIONED.
9. TYPICAL BEAM SHEAR CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE DETAILED WITH STANDARD DOUBLE ANGLE TYPE CONNECTIONS, USING A325 BOLTS.

   NON-COMPOSITE BEAMS SHALL BE DESIGNED TO DEVELOP 55% OF THE TOTAL LOAD CAPACITY DERIVED FROM THE UNIFORM LOAD CONSTANT TABLES, PART 9, THIRTEENTH EDITION OF THE AISC "MANUAL OF STEEL CONSTRUCTION".
10. VERIFY THE EXACT SIZE AND LOCATION OF ALL OPENINGS PRIOR TO FABRICATION OF STEEL FRAMING MEMBERS.
11. OPENINGS THROUGH STEEL BEAMS SHALL BE PROVIDED AS DETAILED ON THE DRAWINGS. ALL SUCH OPENINGS SHALL BE MACHINE CUT. ALL RECTANGULAR OPENINGS SHALL HAVE A CORNER RADIUS OF 2 TIMES THE WEB THICKNESS, 1/2" MINIMUM.
12. PROVIDE BEARING PLATES UNDER STEEL BEAMS OF ADEQUATE SIZE TO KEEP MASONRY BEARING PRESSURE UNDER 125 PSI. STEEL BEAMS AND GIRDERS SHALL BEAR A MINIMUM OF 8" ON MASONRY, UNLESS NOTED OTHERWISE.
13. PROVIDE A NON-METALLIC, NON-SHRINK GROUT UNDER ALL COLUMN BASE PLATES AND BEAM BEARINGS.
14. NOT USED
15. ONLY POST INSTALLED ANCHORS ARE REQUIRED TO BE EVALUATED BY THE ICC, PROVIDE ICC ESL REPORT WITH SHOP DRAWING SUBMITTAL.
16. EMBEDMENT LENGTH OF EXPANSION BOLTS INTO SOLID (OR GROUTED) MASONRY OR CONCRETE SHALL BE AS FOLLOWS:

1/2" DIAMETER EXPANSION BOLTS	– 3 1/2" EMBEDMENT.
5/8" DIAMETER EXPANSION BOLTS	– 4" EMBEDMENT.
3/4" DIAMETER EXPANSION BOLTS	– 4 3/4" EMBEDMENT.
1/2" DIAMETER ADHESIVE ANCHORS	– 4 1/4" EMBEDMENT.
5/8" DIAMETER ADHESIVE ANCHORS	– 5" EMBEDMENT.
3/4" DIAMETER ADHESIVE ANCHORS	– 6 5/8" EMBEDMENT.

17. THE FABRICATOR SHALL SUPPLY LOOSE LINTEL ANGLES OVER ALL MASONRY OPENINGS AND RECESSES UNLESS NOTED OTHERWISE. LINTELS NOT SCHEDULED ON THE DRAWINGS SHALL CONSIST OF A SINGLE ANGLE WITH A 3 1/2" HORIZONTAL LEG FOR EACH 4" OF WALL THICKNESS. LINTELS SHALL BE SIZED PER THE SCHEDULE BELOW, UNLESS NOTED OTHERWISE.

STEEL LINTEL SCHEDULE

MARK	MASONRY OPENING	MEMBER SIZE(S)	BEARING EACH END
A	4'-0" OR LESS	L3 1/2x3 1/2x5/16	6"
B	4'-1" TO 6'-0"	L4x3 1/2x5/16 LLV	6"
C	6'-1" TO 7'-0"	L5x3 1/2x5/16 LLV	8"
D	7'-1" TO 8'-0"	L6x3 1/2x5/16 LLV	8"
E	8'-1" TO 10'-0"	W8x21 + 5/16" BOTTOM PLATE	12"

STEEL LINTEL SCHEDULE NOTES:

ALL LINTELS WITHIN THE EXTERIOR WALL SYSTEM SHALL BE GALVANIZED.

ALL ANGLE LINTELS SHALL HAVE 8" OF SOLID MASONRY BELOW BEARING END, UNLESS NOTED OTHERWISE.

ALL BEAM LINTELS SHALL HAVE 16" OF SOLID MASONRY BELOW BEARING END, UNLESS NOTED OTHERWISE.

BOTTOM PLATES ON BEAMS/LINTELS SHALL BE 1/2" LESS IN WIDTH THAN THE WALL THICKNESS AND EXTEND FOR THE FULL LENGTH OF THE MASONRY OPENING NOT INCLUDING THE BEARING ENDS, UNLESS NOTED OTHERWISE.

BOTTOM PLATES SHALL BE WELDED TO THE BEAM/LINTEL WITH 1/4" FILLET WELDS, 3" LONG, BOTH SIDES AT 9" ON CENTER. STAGGER PLACEMENT OF WELDS FROM SIDE TO SIDE.

SEE ARCHITECTURAL DRAWINGS FOR MASONRY OPENINGS WHICH REQUIRE AN EXTENDED WIDTH 5/16" BOTTOM PLATE AND THE WIDTH REQUIRED AS DETAILED AND SHOWN ON THE ARCHITECTURAL SECTIONS.

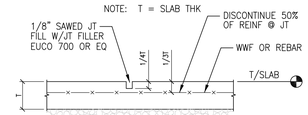
STEEL DECK

1. STEEL DECK FABRICATION AND ERECTION SHALL CONFORM TO THE LATEST STEEL DECK INSTITUTE SPECIFICATIONS.
2. DECK SHALL INCLUDE ANY MISCELLANEOUS CLOSURE PIECES, METAL SCREEDS, ROOF CURBS, DRAIN SUMP PANS, REINFORCING AROUND OPENINGS, ETC. REQUIRED TO MAKE A COMPLETE JOB. MISCELLANEOUS ITEMS SHALL BE GALVANIZED AND SHALL BE NO THINNER THAN 18 GAGE.
3. ALL ROOF DECK SHALL BE GALVANIZED (G-90), UNLESS NOTED OTHERWISE.
4. ROOF DECK SHALL BE PUDDLE WELDED (5/8"ø MINIMUM) TO THE SUPPORTS AT 6" MAXIMUM SPACING (36/7) PATTERN. THE FIRST AND LAST RIBS OF EACH SHEET WELDED TO THE SUPPORTS. SIDE LAPS SHALL BE SCREWED WITH #12 SELF-TAPPING SCREWS AT 36" ON CENTER.
5. THE DECK SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

   1 1/2" WIDE RIB DECK (20 GAGE) — I = 0.212 in4/ft, S = 0.247 in3/ft, Fy = 33 KSI
6. ALL DECK SHALL SPAN OVER A MINIMUM OF 2 SUPPORTS, NO SINGLE SPAN DECK IS ACCEPTABLE.
7. STEEL DECK CROSS SECTIONS ARE ONLY REPRESENTED DIAGRAMMATICALLY ON THE DRAWINGS.

STEEL JOISTS

1. STEEL JOISTS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE STEEL JOIST INSTITUTE (SJI) STANDARD SPECIFICATIONS, LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS.
2. THE STEEL JOIST MANUFACTURER SHALL BE A MEMBER OF THE STEEL JOIST INSTITUTE.
3. VERIFY THE EXACT SIZE AND LOCATION OF ALL OPENINGS PRIOR TO FABRICATION OF JOISTS AND HEADERS.
4. THE JOIST VENDOR SHALL PROVIDE HEADERS OF ADEQUATE STRENGTH FOR JOIST SUPPORT AT OPENINGS.
5. ALL HANGERS TO SUPPORT MECHANICAL EQUIPMENT, ETC. SHALL BE SUPPORTED BY THE BOTTOM CHORD OF JOISTS AND SHALL BE LOCATED AT THE PANEL POINTS. PROVIDE JOIST STIFFENERS AS INDICATED IN DETAILS. ALL HANGERS SHALL BE LOCATED AT THE CENTERLINE OF THE BOTTOM CHORD MEMBER.
6. JOIST BRIDGING SHALL BE FURNISHED AND INSTALLED TO MEET THE DESIGN AND SPACING REQUIREMENTS OF THE SJI STANDARD SPECIFICATIONS FOR STEEL JOISTS AND JOIST GIRDERS. USE HORIZONTAL BRIDGING FOR SHORT SPAN ROOF JOISTS FOR WIND UPLIFT. USE RIGID X-BRIDGING AS INDICATED ON THE DRAWINGS. ALL BRIDGING AND BRIDGING ANCHORS SHALL BE COMPLETELY INSTALLED BEFORE CONSTRUCTION LOADS ARE PLACED ON THE JOISTS.
7. ENDS OF JOIST BRIDGING LINES SHALL BE ANCHORED TO MASONRY WALLS OR STEEL BEAMS. ALL BRIDGING SHALL BE WELDED TO JOISTS IN SUCH A MANNER AS NOT TO IMPAIR THE STRUCTURAL INTEGRITY OF THE JOIST.
8. RIGID X-BRACING AS SHOWN ON THE PLANS SHALL BE BOLTED OR WELDED AT THE INTERSECTION OF THE TWO BRIDGING MEMBERS BETWEEN JOISTS.
9. JOISTS AND ACCESSORIES SHALL HAVE ONE SHOP COAT OF PAINT MEETING THE MINIMUM PERFORMANCE REQUIREMENTS OF THE LATEST SJI SPECIFICATIONS, UNLESS NOTED OTHERWISE. ASPHALT PAINT IS NOT ACCEPTABLE.
10. WELD ALL STEEL JOISTS TO SUPPORTING STRUCTURAL STEEL MEMBERS AS SHOWN ON THE DRAWINGS AND ACCORDING TO SJI AND AWS D1.1 AS A MINIMUM.
11. TOP AND BOTTOM CHORDS OF JOISTS SHALL BE CONTINUOUS WITHOUT ANY SPLICES OF MATERIAL.
12. ALL JOISTS SHALL HAVE A MINIMUM LENGTH OF BEARING ON STEEL BEAMS OF 3".
13. JOISTS SHALL BE ERECTED STRAIGHT. SWEEPS SHALL BE A MAXIMUM OF 1" MEASURED AT THE CENTER.
14. DESIGN ALL JOISTS FOR A NET UPLIFT PRESSURE OF 35 PSF.



TYPICAL SOG CONTROL JOINT
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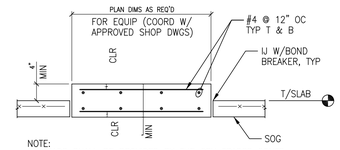
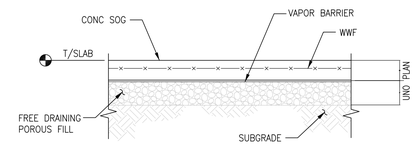


NOTE:
ALL PADS SHALL BE PROVIDED BY THE GEN TRADES CONTR & COORD W/THE SUB-CONTRACTORS FOR SIZE & LOC

TYPICAL ISOLATION EQUIPMENT PAD DETAIL
NTS



NOTES:
1. SUBGRADE SHALL BE PREPARED PER THE GEOTECHNICAL REPORT PRIOR TO SLAB PLACEMENT.
2. SEE GEOTECHNICAL REPORT FOR ADDITIONAL SUBGRADE PREPARATION REQUIREMENTS.
3. SLAB SHALL BE PLACED A MINIMUM OF 30 DAYS PRIOR TO INSTALLATION OF FLOOR FINISHES.
4. WET CURE ALL SLABS ON GRADE, REFER TO SPECIFICATIONS.

TYPICAL SOG CONSTRUCTION
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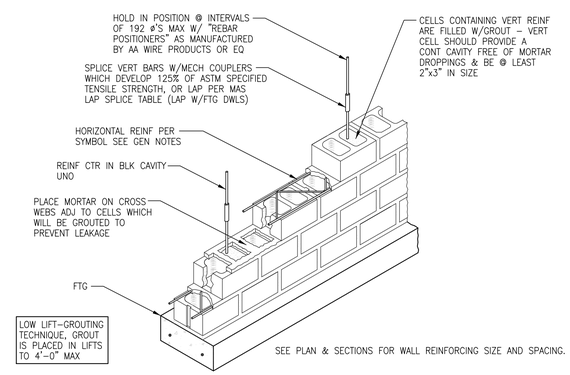

TYPICAL REINFORCED CONCRETE MASONRY
NTS

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REVISIONS

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF INNOVATIVE PROGRAM DELIVERY

STRUCTURAL GENERAL NOTES & TYPICAL DETAILS

NEWNAN SR 34 AND HOLLZ PKWY
PARK AND RIDE LOT

38-03
DRAWING No.

VERSION 1