

ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes items like AB ANCHOR BOLT, ACI AMERICAN CONCRETE INSTITUTE, AFF ABOVE FINISHED FLOOR, etc.

LEGEND

Legend details for various symbols: precast slab, reinforcement, joist, satellite, exhaust hood, fan, etc.

STATEMENT OF SPECIAL INSPECTIONS

SPECIAL INSPECTIONS ARE REQUIRED TO BE PERFORMED BY THE OWNER'S CONSTRUCTION TESTING LABORATORY (CTL) REF TO APPENDIX B OF THE PROJECT SPECIFICATIONS FOR THE FOLLOWING INFORMATION REGARDING THE REQUIREMENTS OF SPECIAL INSPECTIONS: 1. THE MATERIALS, SYSTEMS, COMPONENTS AND WORK REQUIRED TO HAVE SPECIAL INSPECTIONS...

DESIGN LOADS

Table listing design loads for building code, gravity loads (roof, floor, wind), lateral loads, and seismic loads. Includes values for MAX and MIN loads in different zones.

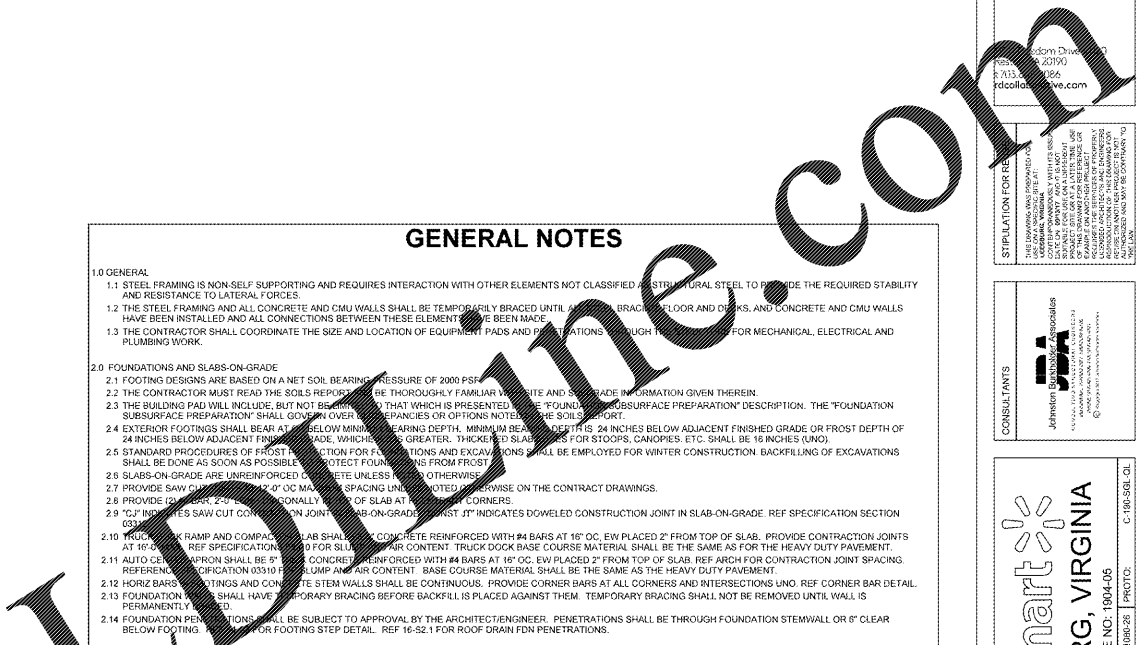
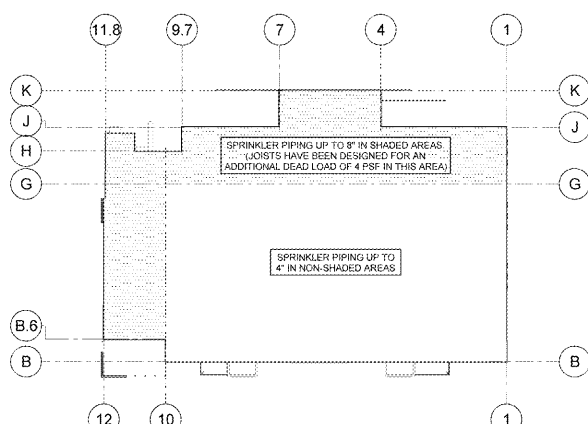
GENERAL NOTES

- GENERAL
1.1 STEEL FRAMING IS NON-SLEEVED AND REQUIRES INTERACTION WITH OTHER ELEMENTS NOT CLASSIFIED AS STRUCTURAL STEEL TO PROVIDE THE REQUIRED STABILITY AND RESISTANCE TO LATERAL FORCES.
1.2 THE STEEL FRAMING AND ALL CONCRETE AND CMU WALLS SHALL BE TEMPORARILY BRACED UNTIL THE BRACING IS PERMANENTLY REMOVED...
2.0 FOUNDATIONS AND SLABS-ON-GRADE
2.1 FOOTING DESIGNS ARE BASED ON A NET SOIL BEARING CAPACITY OF 2000 PSF...
3.0 CONCRETE AND REINFORCING STEEL
3.1 MINIMUM COMPRESSIVE STRENGTH (F'c) AT THE END OF 28 DAYS SHALL BE AS FOLLOWS:
A. STRUCTURAL CAST-IN-PLACE CONCRETE FOOTINGS 3000 PSI
B. STRUCTURAL FORMED CONCRETE WALLS 3000 PSI
C. EXTERIOR CAST-IN-PLACE CONCRETE SLABS 3000 PSI
D. INTERIOR CAST-IN-PLACE CONCRETE SLABS 3000 PSI
E. CAST-IN-PLACE CONCRETE COMPACTOR PAD 5000 PSI
3.2 CONCRETE EXPOSURE CLASSIFICATION FOR EXTERIOR CONCRETE SHALL BE SEVERE F3.
3.3 REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A615, DEFORMED BAR, GRADE 60 OR ASTM SPECIFICATION A706, DEFORMED BAR, GRADE 60.
3.4 REFER TO ACP 318 FOR CONCRETE COVER, ACP 315 FOR DETAILING PRACTICES AND FABRICATION, AND ACP 301 FOR STANDARD PRACTICE FOR MIXING AND PLACING CONCRETE.
3.5 LEAN CONCRETE - MIN 2 1/2 BAGS PORTLAND CEMENT PER CUBIC YARD.
4.0 STRUCTURAL STEEL
4.1 STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRENGTH AND SPECIFICATIONS:
A. WIDE FLANGE STEEL SHAPES 50 KSI A 992
B. SQUARE AND RECTANGULAR HOLLOW STRUCTURAL SHAPES 50 KSI A 500 GRADE C
C. ROUND HOLLOW STRUCTURAL SHAPES 48 KSI A 500 GRADE C
D. STRUCTURAL STEEL PIPE 35 KSI A 53 TYPE E, GRADE B
E. BARS, PLATES, CHANNELS, ANGLES, & ANCHOR BOLTS 36 KSI A 36, UNO
F. HEADED STUD ANCHORS 108 OR 109 (GRADE DESIGNATIONS 1015 TO 1020, INCLUSIVE)
4.2 BOLTS FOR STEEL BEAM AND COLUMN CONNECTIONS SHALL BE 3/4" DIAMETER ASTM A325-N HIGH-STRENGTH BOLTS, UNO. ALL BOLTED CONNECTIONS ARE BEARING TYPE. ALL BOLTS SHALL BE TIGHTENED TO SPECIFIED TORQUE.
4.3 WELDING SHALL MEET ANSWERS D1.1 STRUCTURAL WELDING CODE. ELECTRODES SHALL BE TO K51 LOW HYDROGEN.
4.4 THE FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN AND QUANTITY OF CONNECTIONS THAT ARE NOT DESIGNED OR FULLY DETAILED ON THE CONTRACT DOCUMENTS.
4.5 PROVIDE DOUBLE NUTS AND DOUBLE WASHERS FOR STEEL COLUMN ANCHOR BOLTS TO ALLOW FOR ADJUSTMENT IN BASE PLATE ELEVATION.
4.6 PROVIDE 1 1/2 INCH NON SHRINK GROUT UNDER BASE PLATE AFTER ERECTION EXCEPT USE 2 1/2 INCH NON SHRINK GROUT WHEN COLUMN ANCHOR BOLTS ARE 1 1/4 INCH DIAMETER OR LARGER.
4.7 PROVIDE 15x3x1/4 (LVL) FIELD-FABRICATED FRAM WITH (2) 1/2" DIA x 8' HEADED STUD ANCHORS FOR STEEL BEAMS BEARING UPON MASONRY. UNO. FILL CELLS BUILT WITH GROUT AND PROVIDE (2) #4 VERTICAL REINFORCING BARS WITH DWELLS FROM FOUNDATION, UNO.
5.0 STEEL JOISTS AND JOIST GRIDDERS
5.1 HANGERS SUPPORTING MECHANICAL EQUIPMENT FROM JOIST CHORDS SHALL BE LOCATED WITHIN 3 INCHES OF JOIST PANEL POINTS OR JOIST SHALL BE REINFORCED PER JOIST REINFORCING DETAIL. HANGER LOADS GREATER THAN 100 POUNDS SHALL NOT BE ATTACHED TO THE EDGE OF CHORD ANGLES AND SHALL BE CENTERED ON JOIST CHORD.
5.2 JOISTS AND JOIST GRIDDERS SHALL RESIST THE NET UPLIFT PRESSURE ON ROOF SHOW IN THE DESIGN LOADS.
5.3 SPECIAL JOISTS AND JOIST GRIDDERS THAT REQUIRE SPECIFIC ORIENTATION SHALL BE TAGGED AT ONE END. DEFINE LOCATION OF TAGGED END ON ERECTION DRAWINGS.
5.4 DIAGONAL BRIDGING SHALL BE PROVIDED BETWEEN ADJACENT JOISTS WHENEVER BOTTOM CHORD HORIZONTAL BRIDGING IS DISCONTINUOUS.
5.5 JOIST MANUFACTURER SHALL DESIGN THE COMPRESSION CHORD OF ALL JOISTS SUPPORTING ROOF TOP UNITS, SKYLIGHTS, AND OTHER STRUCTURES FOR AN UNBRACED LENGTH ACCORDING TO THE CONDITIONS AT THE PROJECT WHERE THE UNBRACED LENGTH IS GREATER THAN THE JOIST MAXIMUM.
6.0 STEEL ROOF DECK
6.1 ROOF DECK SHALL BE PAINTED TYPE "B" (WIDE RIB) THREE SPAN MIN UNO OR FRAMING PLAN AS SHOWN ON ROOF FRAMING PLAN. THE STEEL ROOF DECK IS REQUIRED TO ACT AS A DIAPHRAGM. REFER TO THE ROOF DIAPHRAGM CONNECTION DIAGRAM AND SCHEDULE FOR CONNECTIONS ON ROOF FRAMING PLAN.
6.2 PROVIDE 2 LAYERS OF ROOF DECK WHERE SINGLE SPAN CONDITION EXISTS. MAKE DIAPHRAGM CONNECTIONS AFTER PLACEMENT OF BOTH LAYERS OF ROOF DECK. SINGLE SPAN SHALL BE CONSIDERED WHERE DECK IS NOT CONTINUOUS BETWEEN THREE ADJACENT JOISTS AND/OR PERIMETER ANGLE.
6.3 WHEN THE ROOF DECK IS WELDED, WELDING RODS SHALL BE E 6022.
7.0 LIGHT GAUGE STEEL FRAMING
7.1 FOR 18 GAUGE AND LIGHTER FRAMING, CONNECTIONS SHALL BE MADE USING SELF-DRILLING, SELF-TAPPING SCREWS OR POWDER ACTUATED FASTENERS.
7.2 FOR 16 GAUGE AND HEAVIER FRAMING, CONNECTIONS SHALL BE MADE BY SELF-DRILLING SELF-TAPPING SCREWS, POWDER ACTUATED FASTENERS, OR BY WELDING AS INDICATED ON THE DRAWINGS.
7.3 SELF-DRILLING SELF-TAPPING SCREW OR POWDER ACTUATED FASTENER CONNECTIONS ARE NOT PERMITTED TO BE USED WHERE WELDED STUD CONNECTIONS ARE SHOWN ON THE DRAWINGS.
7.4 ALL 18 GAUGE AND LIGHTER FRAMING SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI. ALL 16 GAUGE AND HEAVIER FRAMING SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.
7.5 WHERE DETAILED CONNECTIONS OCCUR AT BRIDGING HOLES, INSTALL 1/4" DIA x 1-0" TRACK OVER STUD WITH (4) #10 SELF DRILLING SCREWS EACH LEG. CENTER TRACK ON CONNECTION.
8.0 MASONRY
8.1 CONCRETE MASONRY UNITS SHALL MEET ASTM SPECIFICATION C 90. THE SPECIFIED DESIGN COMPRESSIVE STRENGTH OF CONCRETE MASONRY (F'm) SHALL BE 2000 PSI. THE NET AREA COMPRESSIVE STRENGTH SHALL BE NOT LESS THAN 80% OF F'm.
8.2 MORTAR SHALL BE A PREBLENDED DRY MIX CONFORMING TO ASTM C 1714 AND MEETING THE PROPERTY SPECIFICATIONS OF ASTM C 270 TYPE "S" MORTAR. MASONRY CEMENT SHALL NOT BE USED FOR MORTAR.
8.3 GROUT SHALL MEET ASTM SPECIFICATION C 475 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI. REF SPECIFICATION SECTION 04260 FOR ADDITIONAL REQUIREMENTS.
8.4 GROUT SHALL BE MECHANICALLY CONSOLIDATED USING A VIBRATOR WITH A MAXIMUM 3/4" DIAMETER HEAD. REF SPECIFICATION SECTION 04200.
8.5 HORIZONTAL JOINT REINFORCEMENT SHALL BE LAGGED TYPE. REF SPEC SECTION 04200. REFER TO CMU WALL REINFORCEMENT DIAGRAM FOR SPACING.
8.6 CONCRETE MASONRY SHALL BE LAGGED IN RUNNING COMMON BOND.
8.7 CONCRETE MASONRY BELOW FINISHED FLOOR SHALL BE NORMAL WEIGHT UNITS AND SHALL HAVE ALL CELLS FULLY GROUTED. CONCRETE MASONRY ABOVE FINISHED FLOOR SHALL BE LIGHT WEIGHT OR NORMAL WEIGHT AND SHALL BE GROUTED ONLY AT REINFORCED CELLS AND BOND BEAMS, UNO.
8.8 INSTALL TEMPORARY BRACING AT ALL CMU WALLS. DO NOT REMOVE TEMPORARY BRACING UNTIL WALLS IS PERMANENTLY BRACED BY CONNECTION TO THE ROOF STRUCTURE.
8.9 REFER TO CMU WALL REINFORCING DIAGRAM AND CMU WALL VERTICAL UNIFORM REINFORCING SCHEDULE FOR PRIMARY WALL REINFORCEMENT.
8.10 REFER TO CMU WALL REINFORCING DIAGRAM AND TYPICAL MASONRY WALL OPENING DIAGRAM AND SCHEDULE FOR ADDITIONAL REINFORCING AT OPENINGS. CONTROL JOINTS, CORNERS AND ENDS OF WALL PANELS.
8.11 REFER TO WALL EMBED SCHEDULE FOR FOUNDATION DETAILS AND FRAMING DETAILS FOR ADDITIONAL BOND BEAM LOCATIONS AND EMBEDDED ITEMS.
8.12 PROVIDE HORIZONTAL REINFORCEMENT AS INDICATED IN THE CMU WALL REINFORCING DIAGRAM. USE OPEN KNOCK OUT BOND BEAM BLOCK. DO NOT USE TROUGH TYPE BLOCKS FOR BOND BEAMS. DO NOT CONTINUE BOND BEAM REINFORCING THROUGH CONTROL JOINTS, UNO.
8.13 MASONRY CONSTRUCTION REQUIRES SPECIAL INSPECTION. REF SPECIFICATION SECTION 04200 FOR REQUIREMENTS.
8.14 INSTALL EMBEDDED STEEL ITEMS FOR OVERHEAD DOORS IN GROUTED CELLS. COORDINATE LOCATIONS OF EMBEDDED ITEMS WITH OVERHEAD DOOR MANUFACTURER.
9.0 POST-INSTALLED ANCHORS
9.1 POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. REFER TO SPECIFICATION 05060 FOR ADDITIONAL INFORMATION.
10.0 SUBGRADE AND BASE
10.1 THE TESTING AGENCY SHALL VERIFY THE SUBGRADE IS COMPACTED TO THE OPTIMUM MAXIMUM DRY DENSITY AS SPECIFIED IN THE PAD PREPARATION. A QUALIFIED REPRESENTATIVE OF THE TESTING AGENCY SHALL WITNESS PROOF ROLLING OF THE SUBGRADE TO IDENTIFY UNACCEPTABLE AREAS OF THE BUILDING PAD. THE CONTRACTOR SHALL RECOMPACT OR REMOVE AND REPLACE SOFT AREAS AS DETERMINED BY THE TESTING AGENCY. THE TESTING AGENCY SHALL PROVIDE A REPORT TO THE OWNER.
10.2 THE TESTING AGENCY SHALL VERIFY THE AGGREGATE BASE IS COMPACTED TO THE OPTIMUM MAXIMUM DRY DENSITY AS SPECIFIED IN THE PAD PREPARATION JUST PRIOR TO PLACING THE SLAB. A QUALIFIED REPRESENTATIVE OF THE TESTING AGENCY SHALL WITNESS PROOF ROLLING OF THE BASE TO IDENTIFY UNACCEPTABLE AREAS OF THE BUILDING PAD. THE CONTRACTOR SHALL REPAIR SOFT AREAS AS DIRECTED BY THE TESTING AGENCY. RUTTING DEPTHS IN EXCESS OF 1/4" SHALL NOT BE ACCEPTABLE. THE TESTING AGENCY SHALL PROVIDE A REPORT TO THE OWNER AND THE ENGINEER STATING THE SUBGRADE AND BASE IS ACCEPTABLE.
10.3 NOTIFY IMMEDIATELY THE OWNER'S REPRESENTATIVE AND ENGINEER IF UNUSUAL SOIL CONDITIONS ARE FOUND.
10.4 PROTECT EXISTING UTILITIES. UTILITIES SHALL BE PROTECTED AND REPAIRED TO ORIGINAL CONDITION, AS REQUIRED BY OWNER'S REPRESENTATIVE, AT NO COST TO OWNER OR WITHOUT EXTENSION OF CONTRACT TIME.
10.5 DO NOT ALLOW STORED EXCAVATION MATERIAL TO DISRUPT DRAINAGE OF AREA.
10.6 DISPOSE OF EXCAVATED MATERIAL AS REQUIRED BY OWNER'S REPRESENTATIVE.

FOUNDATION SUBSURFACE PREPARATION

UNLESS SPECIFICALLY INDICATED OTHERWISE IN THE DRAWINGS AND/OR SPECIFICATIONS, THE LIMITS OF THIS SUBSURFACE PREPARATION ARE CONSIDERED TO BE THAT PORTION OF THE SITE DIRECTLY BENEATH AND 10 FEET BEYOND THE BUILDING AND APURTENANCES. WHEN THE BUILDING OR APURTENANCES ARE LOCATED WITHIN A DISTANCE BEHIND AN ESCARPMENT CREATED BY FILLING, OR CONSTRUCTING A RETAINING WALL COVAL TO THE HEIGHT OF THE ESCARPMENT, THE LIMITS OF THE BUILDING PAD SHALL BE INCREASED BY THE HEIGHT OF THE ESCARPMENT.
EXISTING DRAINAGE FLOWS SHALL BE DIVERTED AND THEIR CHANNELS CLEANED OUT TO BACK TO A PERMANENTLY PLACED AND COMPACTED STRUCTURAL FILL.
WHERE HIGH PLASTICITY SOILS ARE ENCOUNTERED AT DESIGN SUBGRADE ELEVATIONS IN SLAB AND PAVEMENT AREAS, THE SUBGRADE SHALL BE UNDERCUT, CUT AND FILL RESTORED WITH APPROVED STRUCTURAL FILL. WHERE HIGH PLASTICITY SOILS ARE ENCOUNTERED IN AREAS OF EXPOSED FILL, THE FOUNDATION EXCAVATION SHALL BE UNDERCUT TO A DEPTH OF 3 FEET BELOW FINISHED GRADE OR DEEPER WHERE THE HIGH PLASTICITY SOILS, WHICHEVER IS SHALLOWER, THE DESIGN ELEVATION. THE REST OF THE EXCAVATION WITH FLOWABLE FILL TO A MINIMUM 24 INCH LENGTH.

SPRINKLER PIPE LOADING PLAN



STIPULATION FOR THE USE OF THIS DOCUMENT... FOR ALL INFORMATION CONCERNING THE PROJECT, CONTACT THE ARCHITECT AT THE ADDRESS BELOW.

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GENERAL STRUCTURAL INFORMATION