

GENERAL NOTES

A. APPLICABLE DESIGN CODES & MISCELLANEOUS

INTERNATIONAL BUILDING CODE 2021
AMERICAN CONCRETE INSTITUTE 318
AMERICAN INSTITUTE OF STEEL CONSTRUCTION

IBC CHAPTER 17 SPECIAL INSPECTIONS:

THE OWNER OR THE OWNER'S REPRESENTATIVE IS REQUIRED TO PROVIDE SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF IBC 2021. THE GENERAL CONTRACTOR IS REQUIRED TO ENGAGE AND ACCOMMODATE THE REQUIRED SPECIAL INSPECTIONS BY PROVIDING ACCESS TO ELEMENTS REQUIRED FOR INSPECTION AND BY NOTIFYING THE TESTING AGENCY 48 HOURS PRIOR TO A REQUIRED INSPECTION EVENT. THE CONTRACTOR SHALL PROVIDE REPORTS FROM THE TESTING AGENCY INDICATING COMPLIANCE WITH THE IBC REQUIREMENTS FOR:

- STEEL CONSTRUCTION (IBC 1705.2)
- CONCRETE CONSTRUCTION (IBC 1705.3)
- SOILS (IBC 1705.6)
- AUGER C.I.P. PILES (IBC 1705.8)

STRUCTURAL OBSERVATIONS:

STRUCTURAL OBSERVATIONS SHALL BE CONDUCTED BY THE ENGINEER OF RECORD TO ASSURE GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. THESE OBSERVATIONS WILL NOT TAKE THE PLACE OF THE CODE REQUIRED SPECIAL INSPECTIONS LISTED ABOVE OR ANY OTHER INSPECTIONS REQUIRED BY THE LOCAL BUILDING OFFICIAL. NOTIFY ENGINEER OF RECORD AND ARCHITECT FOR STRUCTURAL OBSERVATION VIA EMAIL A MINIMUM OF 72 HOURS PRIOR TO ANY OF THE FOLLOWING EVENTS:

- INSTALLATION OF PILES
- ALL CONCRETE/GROUT POURS (WITH IDENTIFICATION OF SPECIFIC ELEMENTS TO BE POURED)
- NEAR COMPLETION OF STRUCTURAL STEEL ERECTION.
- PLACEMENT OF INTERIOR SHEATHING OR INSULATION COVERING WOOD FRAMING OR COLD-FORMED METAL FRAMING.
- PLACEMENT OF ROOFING COVERING ROOF DECK.

FAILURE TO NOTIFY MAY REQUIRE REMOVAL OF COMPLETED WORK.

PROVIDE COMPREHENSIVE ELECTRONICALLY TRANSMITTED PHOTOS OF ANY REQUESTED WORK TO ENGINEER PRIOR TO ANY OF THE ABOVE EVENTS IN LIEU OF OBSERVATION IF DEEMED ACCEPTABLE BY ENGINEER.

B. DESIGN LOADS AND REQUIREMENTS SECTION

(1) ELEVATED FLOOR DESIGN LOADS
LIVE LOAD (TYP) 80 PSF (REDUCIBLE)
LIVE LOAD (TYP) 2000 LB (CONCENTRATED)
LIVE LOAD (STAIRS) 100 PSF (REDUCIBLE)
LIVE LOAD (MECH. ROOMS) 125 PSF (NON-REDUCIBLE)

(2) ROOF DESIGN LOADS
LIVE LOAD 20 PSF (REDUCIBLE)
LIVE LOAD 300 LB (CONCENTRATED)
GROUND SNOW LOAD 5 PSF
RAIN INTENSITY 9.80 INCHES/HR

(3) LATERAL DESIGN - WIND
ASCE 7-16
ULTIMATE DESIGN WIND SPEED (V_{ult}) 116 MPH
NOMINAL DESIGN WIND SPEED (V_{nom}) 90 MPH
EXPOSURE CATEGORY B
RISK CATEGORY III
INTERNAL PRESSURE COEFFICIENT +/- 0.18
MWFRS - DIRECTIONAL PROCEDURE

(4) LATERAL DESIGN - SEISMIC
ASCE 7-16
IMPORTANCE FACTOR 1.25
S₁ 0.094g
S₂ 0.062g
SITE CLASS D
S_{MS} 0.100g
S_{MI} 0.099g
SEISMIC DESIGN CATEGORY B
C_s 0.0418
DESIGN BASE SHEAR 0.0418*W
R 3
EQUIVALENT LATERAL FORCE ANALYSIS METHOD.
STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE.

C. GEOTECHNICAL

THE FOUNDATION AND SLAB DESIGN WAS BASED ON THE GEOTECHNICAL INVESTIGATION BY GEOTECHNICAL TESTING LABORATORY, INC. DATED AUGUST 14, 2024. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE GEOTECHNICAL REPORT PRIOR TO BIDDING. A COPY OF THE GEOTECHNICAL REPORT IS AVAILABLE AT THE ARCHITECT'S OFFICE FOR REVIEW.

D. CONCRETE AND GROUT

CONCRETE MIXING, HANDLING, PLACING, AND CURING SHALL BE IN ACCORDANCE WITH ACI 301.

SEE THE "CONCRETE MIX REQUIREMENTS" TABLE FOR DESCRIPTIONS AND REQUIREMENTS OF CONCRETE TYPES.

FLY ASH IS NOT PERMITTED IN ANY CONCRETE FOR THIS PROJECT.

SLAG IS NOT PERMITTED IN ANY CONCRETE FOR THIS PROJECT.

ALL GROUT SHALL BE NON-SHRINK GROUT. THERE SHALL BE 2" NON-SHRINK GROUT BENEATH ALL COLUMN BASE PLATES.

ALL FLOOR DRAINS, DROPS, CURBS, ETC. SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

SEE PLUMBING DRAWINGS FOR LOCATIONS OF ALL FLOOR DRAINS. SLOPE GROUND FLOOR SLAB AND ELEVATED SLABS AT ALL FLOOR DRAINS AWAY FROM WALLS IN ROOM TO LOW POINT AT FLOOR DRAIN WHICH SHALL BE SET 1/2" BELOW FINISHED FLOOR OF SLAB, UNLESS NOTED OTHERWISE.

ALL EXPOSED SURFACES OF CONCRETE WALLS, FOUNDATION EDGES, AND SLAB EDGES SHALL BE PLYWOOD FORMED AND COATED WITH A REPAIR MORTAR.

RANDOM TRAFFIC FLOOR FINISH TOLERANCES (F₁ AND F₂) FOR SLABS ARE TO MEET SPECIFIED OVERALL FLATNESS OF SOF. +/- 35 AND SPECIFIED OVERALL LEVELNESS OF SOF. +/- 25 WITH MINIMUM LOCAL VALUES OF MFL = 21 AND MFL = 15, AS EXPRESSED IN ACI 117, SECTION 4, AND MEASURED WITHIN 72 HOURS IN ACCORDANCE WITH ASTM E 115.

COORDINATE ALL DEVIATIONS IN FLATNESS/LEVELNESS WITH ARCHITECT TO COMPLY WITH AESTHETIC AND FLOOR FINISH REQUIREMENTS.

THE CONTRACTOR SHALL INCLUDE IN THE BID THE COMPLETE COST OF AN ADDITIONAL 10 CUBIC YARDS OF UNSCHEDULED 4000 PSI STRUCTURAL FOUNDATION/SLAB CONCRETE FOR MISCELLANEOUS USE TO BE DELIVERED, PLACED, FORMED, AND FINISHED AS DIRECTED BY STRUCTURAL ENGINEER.

VERIFY ALL SLAB EDGE DIMENSIONS AT DOORS AND FULL-HEIGHT WINDOWS WITH ARCHITECTURAL DRAWINGS PRIOR TO SETTING OF GROUND FLOOR SLAB EDGE FORMS. AT LOCATIONS WHERE SLAB EDGE EXTENDS PAST OUTSIDE EDGE OF DOOR OR FULL-HEIGHT WINDOW, SLOPE SLAB DOWN 1/4" FROM OUTSIDE FACE OF DOOR WINDOW TO SLAB EDGE, UNLESS NOTED OTHERWISE.

MINOR SURFACE CRACKING IS AN INHERENT CHARACTERISTIC OF CONCRETE AND DOES NOT AFFECT THE STRUCTURAL INTEGRITY OR SERVICEABILITY OF THE STRUCTURE. THE OCCURRENCE OF HAIRLINE OR MINOR CRACKS DUE TO SHRINKAGE, TEMPERATURE CHANGES, SERVICE STRESSES, OR OTHER FACTORS IS EXPECTED AND SHALL NOT BE CONSIDERED A DEFECT. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR MINOR OR HAIRLINE CRACKS THAT DO NOT COMPROMISE THE STRUCTURE'S SAFETY OR FUNCTION, PROVIDED THE CONCRETE IS PLACED AND CURED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND INDUSTRY STANDARDS.

E. CONCRETE REINFORCEMENT

ALL REBARS SHALL BE GRADE 60 (F_y = 60,000 PSI MIN.)

VAPOR RETARDER AT GROUND FLOOR SLABS TO BE 15 MIL WITH TAPED JOINTS. REFERENCE SPECIFICATIONS FOR CAST-IN-PLACE CONCRETE FOR ADDITIONAL INFORMATION.

HOOK ALL GRADE BEAM TOP AND BOTTOM BARS AT THE END OF THE GRADE BEAM.

PROVIDE (2)-#6 L BARS (a=36", b=36") ONE TOP AND ONE BOTTOM AT THE OUTSIDE FACE OF ALL GRADE BEAM CORNERS.

PROVIDE (4)-#6 L BARS (a=36", b=36") TWO TOP AND TWO BOTTOM AT ALL GRADE BEAM INTERSECTIONS.

PROVIDE #5 L BARS (a=18", b=18") AT CORNER OF ELEVATOR PIT WALLS. SPACE BARS WITH ALL HORIZONTAL WALL REINFORCEMENT.

PROVIDE HORIZONTAL #4 (a=24", b=24") CORNER BARS AT ALL CONCRETE WALL CORNERS TO LAP WITH WALL REINFORCING BARS, U.N.O.

ALL WELDED WIRE MESH SHALL HAVE 12" MIN. LAP BETWEEN SHEETS.

PLACE AND SECURE ALL EMBEDDED ITEMS INCLUDING REINFORCING DOWELS, ANCHOR BOLTS, FORM SAVER DOWELS AND EMBED PLATES PRIOR TO PLACING OF CONCRETE. DO NOT WET STICK ANY OF THESE ITEMS, UNLESS NOTED OTHERWISE HEREIN OR PERMITTED BY ENGINEER OF RECORD IN WRITING. THIS DOES NOT APPLY TO SINGLE-BAR REINFORCEMENT IN DRILLED SHAFTS.

THE CONTRACTOR SHALL INCLUDE IN THE BID THE COMPLETE COST OF AN ADDITIONAL 200 POUNDS OF UNSCHEDULED ASTM A615 GRADE 60 REBAR FOR MISCELLANEOUS USE TO BE FABRICATED, DELIVERED, PLACED, AND TIED AS DIRECTED BY STRUCTURAL ENGINEER.

F. STRUCTURAL STEEL

STRUCTURAL STEEL MEMBERS SHALL BE MADE USING THE FOLLOWING GRADES:

WIDE FLANGE SHAPES ASTM A-992
HSS ASTM A500, GRADE C
PIPES ASTM A53, TYPE E OR S
PLATE, BARS, & ANGLES ASTM A572, GRADE 50

ALL STRUCTURAL STEEL SHALL BE FABRICATED, COATED, AND ERECTED AS PER THE AISC SPECIFICATIONS.

ALL WELDS SHALL BE WITH E70XX ELECTRODES AND IN ACCORDANCE WITH AWS STANDARDS. MINIMUM FILLET WELD SIZE SHALL BE 1/4" - U.N.O. FOULING ELEMENTS SUCH AS PAINT, OIL, GREASE, OR OTHER CONTAMINANTS SHALL BE REMOVED AT ALL WELDED CONNECTIONS PRIOR TO WELDING.

ALL FRAMING CONNECTIONS SHALL BE MADE WITH THE MAXIMUM NUMBER OF ROWS OF 3/4" A325-N TENSION CONTROL BOLTS FOR GIVEN BEAM DEPTH. - U.N.O.

ALL TUBULAR STEEL COLUMNS SHALL HAVE 1/2" CAP PLATES - U.N.O.

PROVIDE CONTINUOUS 5/16" THICK BENT PLATE OR ANGLE AROUND PERIMETER OF ALL FLOOR EDGES INCLUDING STAIRS, ELEVATORS, MECH. PENETRATIONS, ETC.

THE CONTRACTOR SHALL ASSURE THAT THE STRUCTURE HAS BEEN ERECTED TRUE AND SUITABLE TEMPORARY BRACING AND GUYS SHALL BE INSTALLED TO MAINTAIN SAID TRUENESS. THE STRUCTURAL STEEL FRAMEWORK SHALL BE BRACED OR GUyed UNTIL FINAL ERECTION IS COMPLETE AND DECKING AND PERMANENT BRACES HAVE BEEN ERECTED.

THE STEEL FABRICATOR SHALL PROVIDE AN ALLOWANCE IN HIS BASE BID FOR A TOTAL OF TEN TONS OF ADDITIONAL ERECTED MISCELLANEOUS STEEL AS DEEMED NECESSARY BY STRUCTURAL ENGINEER. THIS ALLOWANCE SHALL COVER ALL DETAILING, FABRICATION, MATERIALS, PAINTING, DELIVERY, ERECTION, COATINGS, AND OTHER ASSOCIATED COSTS. THE EXACT SIZE AND QUANTITY OF STEEL MATERIAL SHALL BE SELECTED BY THE STRUCTURAL ENGINEER AS REQUIRED. DEDUCTIONS FROM STEEL ALLOWANCE SHALL BE MADE IN TERMS OF WEIGHT OF MATERIAL ADDED. ANY UNUSED PORTIONS OF THIS ALLOWANCE SHALL BE CREDITED BACK TO THE OWNER AT THE RATE OF \$10,000.00 PER TON.

CONTRACTOR TO PROVIDE GALVANIZED STEEL LINTELS (TEE OR ANGLE AS INDICATED BY ARCHITECTURAL DETAILS) AS REQUIRED TO SUPPORT BRICK AND/OR MASONRY VENEER ABOVE ALL WALL OPENINGS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE (UNLESS NOTED OTHERWISE):

CLEAR OPENING TEE SIZE ANGLE SIZE
0' TO 4' Wt6x13 L4x4x1/4 LLV
4' TO 9' Wt6x13 L6w4x3/8 LLV
9' TO 12' Wt6x13 L7w4x3/8 LLV

STEEL LINTELS SUPPORTING BRICK AND/OR MASONRY VENEER SHALL HAVE A MINIMUM BEARING SUPPORT LENGTH OF 8" AT CONDITIONS WHERE DISTANCE BETWEEN A SERIES OF OPENINGS IS 24 INCHES OR LESS. THE LINTEL SHALL RUN CONTINUOUS ACROSS ALL OPENINGS.

ANY STEEL NOT SHOWN ON DRAWINGS THAT IS REQUIRED FOR ELEVATORS SHALL BE PROVIDED BY THE CONTRACTOR.

ALL STRUCTURAL STEEL INDICATED ON PLANS AS GALVANIZED (OR GALV) SHALL BE HOT-DIP GALVANIZED PER THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS. TOUCH UP ALL BREAKS IN GALVANIZE WITH A ZINC RICH COLD GALVANIZE COMPOUND PER 051200 SPECIFICATIONS.

PRE-ENGINEERED STAIRS AND RAILS:
ALL STAIRS AND RAILS (INCLUDING STANDALONE GUARDRAILS) SHALL BE A DELEGATED DESIGN. DESIGN STRINGERS FOR L/360 TOTAL DEFLECTION. DESIGN STAIRS AND RAILS FOR ALL REQUIRED LOADS ACCORDING TO IBC 2021. PROVIDE STAMPED DRAWINGS AND CALCULATIONS BY CIVIL ENGINEER LICENSED IN LOUISIANA.

EXPOSED STEEL COLUMNS AND SPANDREL BEAMS:
ALL FABRICATION/MILL MARKS SHALL BE REMOVED OR NOT APPARENT ON EXPOSED STEEL COLUMNS AND SPANDREL BEAMS. ALL WELDS SHALL BE UNIFORM AND SMOOTH WITH CONTINUOUS APPEARANCE AND WELD SPATTERS REMOVED. ALL SHARP EDGES SHALL BE GROUND SMOOTH.

G. COLD-FORMED METAL FRAMING

COLD-FORMED METAL FRAMING IS A DELEGATED DESIGN. SEE SPECIFICATION 05 4000 FOR MORE INFORMATION. REVIEW CONDITIONS AND VERIFY MATERIAL QUANTITIES PRIOR TO BIDDING. THE NOTES BELOW ONLY APPLY TO ELEMENTS WITHIN THE SCOPE INDICATED BY SPECIFICATION 05 4000.

COLD-FORMED METAL FRAMING MEMBER SIZING DESIGNATIONS ARE PER THE NOMENCLATURE ESTABLISHED BY THE STEEL MANUFACTURERS ASSOCIATION (SSMA). SEE THE FOLLOWING EXAMPLE:

800S200-43
800 = MEMBER DEPTH TO TWO DECIMAL PLACES = 8.00"
S = MEMBER TYPE, STUD OR JOIST
200 = FLANGE WIDTH TO TWO DECIMAL PLACES = 2.00"
43 = MINIMUM DESIGN THICKNESS OF THE METAL IN MILS

ALL COLD-FORMED METAL FRAMING MEMBERS SHALL HAVE MINIMUM THICKNESS OF 43 MILS, U.N.O. PROVIDE GREATER THICKNESSES WHERE REQUIRED PER DELEGATED DESIGN AS NOTED IN SPECS. COORDINATE WITH METAL STUD ENGINEER PRIOR TO BIDDING.

PROVIDE BRIDGING AND END BLOCKING FOR ALL JOIST SPANS. SIZE AND SPACING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

ALL CONDUIT AND OTHER PENETRATIONS IN WALL STUDS SHALL BE MADE THRU THE TYPICAL OVAL PUNCHOUT IN THE STUD. IF LARGER OPENINGS ARE REQUIRED, THE GENERAL CONTRACTOR SHALL COORDINATE BETWEEN MECHANICAL/ELECTRICAL SUBCONTRACTORS AND THE COLD-FORMED METAL FRAMING ENGINEER TO ENSURE THAT THE OPENINGS ARE PROPERLY CONSIDERED IN DESIGN.

COLD-FORMED METAL FRAMING SUPPLIER SHALL DESIGN AND PROVIDE STUD FRAMING AS REQUIRED TO SUPPORT PRE-MANUFACTURED ALUMINUM CANOPIES AT EXTERIOR. GENERAL CONTRACTOR TO COORDINATE WITH CANOPY SUPPLIER TO PROVIDE LOADING AND ASSURE PROPER CONNECTIVITY. CONNECTION OF CANOPIES TO COLD-FORMED METAL FRAMING SHALL BE SHOWN ON BOTH ALUMINUM CANOPY SHOP DRAWINGS AND COLD-FORMED METAL FRAMING SHOP DRAWINGS.

NO SPLICES IN STUDS, JOISTS, BEAMS, HEADERS, OR OTHER LOAD CARRYING MEMBERS MAY BE MADE WITHOUT PRIOR ENGINEERING REVIEW AND SPECIFIC DETAILS FOR SUCH REVISION TO THE ORIGINAL DESIGN.

ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS. STUD ENDS MUST SEAT TIGHTLY INTO TRACKS IN ALL BEARING APPLICATIONS.

H. OPEN WEB STEEL "BAR" JOISTS

ALL JOISTS SHALL BE CONNECTED TO SUPPORTS BY WELDING AS PER THE STEEL JOIST INSTITUTE REQUIREMENTS.

FABRICATION, COATING AND ERECTION OF ALL JOISTS SHALL BE IN ACCORDANCE WITH SJU SPECIFICATIONS.

ALL ROOF JOISTS AND THEIR CONNECTIONS TO SUPPORTING STRUCTURE SHALL BE DESIGNED FOR A NET UPLIFT ACCORDING TO THE ROOF WIND PRESSURE TABLE ON THIS SHEET. SEE NOTE E IN PRESSURE TABLE. 5 PSF MAY BE ASSUMED FOR 0.60 TERM IN ASD LOAD COMBINATIONS.

THE JOIST SEAT AND CONNECTION TO SUPPORTING STRUCTURE OF ALL JOISTS AND JOIST GIRDERS SHALL BE DESIGNED TO TRANSMIT AN ASD-FACTORED LATERAL ROLL-OVER FORCE OF 1500 POUNDS FROM THE DECK TO THE SUPPORTING STRUCTURE.

BRIDGING FOR BAR JOISTS SHALL BE AS REQUIRED BY SJU, UNLESS NOTED OTHERWISE.

ONE BAY OF X-BRIDGING (ANGLE 1 1/2"x 1 1/2" x 7/64") SHALL BE PROVIDED AT EACH END OF ALL BRIDGING ROWS UNLESS NOTED OTHERWISE ON PLANS. BRIDGING SHALL BE PROVIDED BY JOIST SUPPLIER AND IS IN ADDITION TO SJU REQUIRED BRIDGING.

ALL MECHANICAL EQUIPMENT SUSPENDED FROM OR RESTED ON BAR JOISTS AT POINT LOCATIONS SHALL BE DONE AT A PANEL POINT LOCATION OF THE JOIST. THE STEEL SUPPLIER SHALL PROVIDE ADDITIONAL 1 1/2 x 1 1/2 x 3/16 ANGLES (EACH SIDE OF JOIST WEB) FROM THE POINT OF LOADING TO THE NEAREST PANEL POINT AT LOCATIONS WHERE CONCENTRATED LOADS OCCUR MORE THAN 3' OFF OF PANEL POINTS.

ALL ROOF JOISTS (AND JOIST CONNECTIONS) BEARING ON ROOF EDGE BEAMS SHALL BE DESIGNED TO TRANSFER AN ASD-FACTORED LATERAL AXIAL FORCE PARALLEL TO JOIST OF 1500 POUNDS (DUE TO WIND ON EXTERIOR WALL) FROM THE TOP OF THE EDGE BEAM TO THE ROOF DECK DIAPHRAGM.

ALL ATTACHMENTS MADE TO JOISTS SHALL BE MADE IN A CONCENTRIC MANNER SUCH THAT TWISTING IS NOT INDUCED INTO THE JOIST. (E.G. ONE-SIDED CLAMP CONNECTIONS ARE NOT ACCEPTABLE).

FOR JOIST SUPPORT OF MEP PIPES 4" IN DIAMETER OR GREATER RUNNING PERPENDICULAR TO JOISTS, PROVIDE PIPE SUPPORT ATTACHMENTS AT EVERY JOISTS ALONG THE PIPE RUN.

FOR JOIST SUPPORT OF MEP PIPES 4" IN DIAMETER OR GREATER RUNNING PARALLEL TO JOISTS, PROVIDE A UNISTRUT TYPE TRAPEZOID HANGER ASSEMBLY WHICH ENGAGES A MINIMUM OF TWO JOISTS AT EACH SUPPORT LOCATION. PROVIDE SUPPORTS FOR PIPES AT 48" ON CENTER MAXIMUM SPACING ALONG EACH JOIST.

J. METAL DECKING

ALL METAL DECK SHALL BE FABRICATED AND ERECTED AS PER THE STEEL DECK INSTITUTE'S STANDARDS AND THE MANUFACTURER'S SPECIFICATIONS.

SEE THE "METAL DECKING REQUIREMENTS" TABLE FOR DESCRIPTION OF METAL DECKING.

PUDLE WELDS (IF SPECIFIED) THAT BURN THROUGH DECKING ARE NOT ACCEPTABLE AND SHALL BE REPAIRED.

ALL FLOOR AND ROOF OPENINGS AND OTHER SUCH REQUIREMENTS SHALL BE COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.

AT ALL ROOF DECK RIDGES, VALLEYS, OR DECK DIRECTION CHANGES, PROVIDE CONTINUOUS 20 GAGE X 9" WIDE PLATE (WITH 4 1/2" LONG LEGS AT RIDGES AND VALLEYS). FASTEN EACH SIDE OF PLATE TO EACH DECK WITH #12 TEK SCREWS AT 6" O.C.

K. POST-INSTALLED ANCHORS

IF SPECIFIC POST-INSTALLED ANCHOR IS NOT INDICATED ON DRAWINGS, THEN THE FOLLOWING POST-INSTALLED ANCHORS OR ADHESIVE SHALL BE USED FOR THIS PROJECT UNLESS EQUAL SUBSTITUTIONS ARE SUBMITTED AND APPROVED.

EXPANSION ANCHORS

- STRONG BOLT 2 BY SIMPSON STRONG TIE
- KWIK-BOLT-TZ BY HILTI
- DEWALT STUD SD1

CONCRETE OR MASONRY SCREWS

- TITEN TURBO BY SIMPSON STRONG TIE
- DEWALT ULTRA-CON
- KWIK-CON II BY HILTI

EPOXY ADHESIVE

- SET-3G BY SIMPSON STRONG TIE
- HIT-RE 500+3 BY HILTI
- DEWALT PURE 220+

HEAVY DUTY SCREW ANCHORS

- TITEN HD BY SIMPSON STRONG-TIE
- KH-EZ BY HILTI
- DEWALT SCREW BOLT+

ALL POST-INSTALLED ANCHORS SHALL BE INSTALLED WITH STRICT ADHERENCE TO THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.

FOR ALL POST INSTALLED ANCHOR APPLICATIONS, HOLES SHALL BE DRILLED WITH A HAMMER DRILL, U.N.O.

ALL DRILLED HOLES FOR ADHESIVE ANCHORS SHALL BE BRUSHED AND BLOWN CLEAN WITH COMPRESSED AIR AS SPECIFIED BY THE MANUFACTURER.

ALL ADHESIVE ANCHORS SHALL BE INSTALLED IN DRY CONCRETE, U.N.O.

DO NOT INSTALL POST-INSTALLED ANCHORS INTO NEW CONCRETE UNTIL DESIGN 28-DAY COMPRESSIVE STRENGTH HAS BEEN ACHIEVED AND IN NO CASE LESS THAN 7 DAYS.

ALL POST-INSTALLED ANCHORS AND ACCESSORIES EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED (OR HAVE APPROVED EQUAL CORROSION RESISTANCE).

L. NOTICE

THE USE OF REPRODUCTION OF THESE CONTRACT DRAWINGS BY THE CONTRACTOR, SUB-CONTRACTOR, ERECTOR, FABRICATOR, OR MATERIAL SUPPLIER IN LIEU OF PREPARED SHOP DRAWINGS SIGNIFIES HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING FROM ANY ERRORS THAT MAY BE PRESENT HEREON.

IN THE EVENT OF CONFLICTING OR DIFFERING REQUIREMENTS INDICATED ON THE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS THAT HAVE NOT BEEN CLARIFIED OR CHANGED, THE CONTRACTOR SHALL PROVIDE THE BETTER QUALITY, GREATER QUANTITY, OR MORE STRINGENT UNLESS DIRECTED OTHERWISE BY ARCHITECT/ENGINEER.

THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION, EXCEPT WHERE SPECIFIC REQUIREMENTS ARE PROVIDED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND PERSONNEL DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, EXCAVATION PROTECTION, SCAFFOLDING, JOB SITE SAFETY, ETC. STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, PROCEDURES, OR SEQUENCES OF CONSTRUCTION.

M. FIELD VERIFICATIONS

CONTRACTOR TO FIELD MEASURE ALL NEEDED DIMENSIONS PRIOR TO ORDERING MATERIAL.

CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL DETAILS, GEOMETRY, DIMENSIONS, AND ELEVATIONS PRIOR TO ORDERING/FABRICATION OF MATERIALS. CONTACT ARCHITECT AND ENGINEER IMMEDIATELY IF ANY DIMENSIONS, DETAILS, OR ELEVATIONS ARE NOT FOUND TO MATCH THOSE SHOWN ON THE PLANS.

N. ABBREVIATIONS

@ AT
A/E ARCHITECT/ENGINEER
A.F.F. ABOVE FINISHED FLOOR
ARCH. ARCHITECTURAL
BF BRACED FRAME
BM BEAM
B.O.C. BEAM ON COLUMN
B.O.S. BOTTOM OF STEEL
BOT BOTTOM
BTM BOTTOM
B/W BETWEEN
BTWN BETWEEN
C.F.M.F. OR CFMF COLD-FORMED METAL FRAMING
C.I.P. CAST-IN-PLACE
C.G OR CG CENTER OF GRAVITY
CIP COMPLETE JOINT PENETRATION
C.L OR CL CENTER LINE
C.O.B. COLUMN ON BEAM
COL COLUMN
CONT. CONTINUOUS
CONNK CONNECTION
EL ELEVATION
ELEV. ELEVATION
ELEC ELECTRICAL
E.O.A. EDGE OF ANGLE
E.O.R. ENGINEER OF RECORD
E.O.S. EDGE OF SLAB
EXIST. EXISTING
F.F. FINISH FLOOR
FIN. FLR FINISH FLOOR
GC GAGE
GA GENERAL CONTRACTOR
GL GLUE-LAMINATED
GR. BM. GRADE BEAM
HI DETAIL APPLIES HIGH
H.S.A. OR HSA HEADED STUD ANCHOR
H.S.A.S. HEADED STUD ANCHORS
HSS HOLLOW STRUCTURAL SECTION
LO DETAIL APPLIES LOW
M.B.S. METAL BUILDING SUPPLIER
MECH. MECHANICAL
MEP MECHANICAL, ELECTRICAL, PLUMBING
O.C. ON CENTER
O.C.E.W. ON CENTER EACH WAY
OPP. OPPOSITE
PEMBS PRE-ENGINEERED METAL BUILDING
SUPPLIER
PLATE
P.T. POST TENSION OR POST-TENSIONED
POST-TENS POST TENSION OR POST-TENSIONED
REINF. REINFORCEMENT
RTU ROCK TOP UNIT
SIM SIMILAR
STR STRENGTH
T.O. TOP OF
T.O.C. TOP OF CONCRETE
T.O.J. TOP OF JOIST
T.O.S. TOP OF SLAB
U.N.O. UNLESS NOTED OTHERWISE
V.O.J. VERIFY ON JOBSITE
W WITH
WF WIDE FLANGE
WWF WELDED WIRE FABRIC

CONCRETE MIX REQUIREMENTS

| USAGE | AGGREGATE | MIN. CEMENT (lb/yd) | SLUMP (inches) | 7 DAY STR. (psi) | 28 DAY STR. (psi) | WATER REDUCER | REMARKS |
|--------------------|-----------|---------------------|------------------|------------------|-------------------|---------------|---------|
| PILE CAPS | ① | 583 | 4 | 3500 | 5000 | (B) | |
| SPREAD & MAT FTGS. | ① | 489 | 4 | 2000 | 3000 | (B) | |
| GRADE BEAMS | ① | 489 | 4 | 2000 | 3000 | (B) | |
| PEDESTALS | ① | 489 | 4 | 2000 | 3000 | (B) | |
| SLAB ON GRADE | ① | 545 | 7 | 2700 | 4000 | (A) | |
| SLAB ON DECK | ② | 611 | 7 | 2000 | 3000 | (A) | |
| ROOF DECK | ② | 611 | 7 | 2000 | 3000 | (A) | |
| ACIP PILES | ③ | 583 | SLUMP FLOW BY GC | 3500 | 5000 | | |
| DRY BOTTOMS | | | | | 1500 | | |
| FLOWABLE FILL | | | | | | | |
| ALL OTHERS | ① | 545 | 7 | 2700 | 4000 | (A) | |

- ① REGULAR SAND AND GRAVEL (145 pcf)
- ② LIGHT WEIGHT CONCRETE (114 TO 120 pcf)
- ③ REGULAR SAND (145 pcf)
- ④ MID-RANGE WATER REDUCER
- ⑤ CONTRACTOR'S OPTION - IF WATER REDUCER IS USED, THEN SLUMP SHALL BE 7".
- ⑥ SUPER PLASTICIZER

NOTES:

THE SLUMP IN THE TABLE ABOVE IS GIVEN AT POINT OF PLACEMENT. THE ALLOWABLE TOLERANCE FOR SLUMP IS PLUS OR MINUS ONE INCH FROM THE VALUES GIVEN IN THE TABLE.

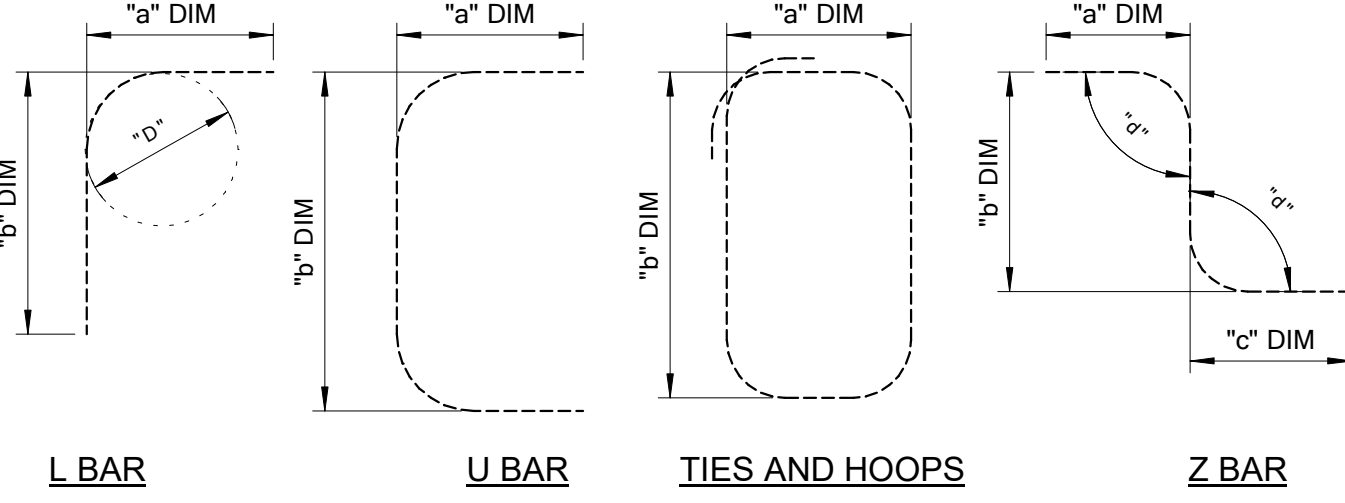
IF SUPER PLASTICIZER IS USED, THE SLUMP SHALL BE 3" PRIOR TO ADDITION OF THE SUPER PLASTICIZER. DO NOT USE SUPER PLASTICIZER IN SLABS.

CONCRETE NOT MEETING THE SPECIFIED SEVEN DAY STRENGTH SHALL EITHER BE REMOVED OR CONSTRUCTION MUST BE STOPPED IN THE QUESTIONABLE AREA UNTIL THE 28 DAY TEST VALUES HAVE BEEN APPROVED.

SEE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

REFERENCE SPECIFICATION SECTION 03 3000- FOR PROPORTIONING AND DESIGN OF MIXES.

STANDARD BAR BEND DIAGRAMS



L BAR

SEE DETAILS AND KEYNOTES FOR DIMENSIONS OF ALL BARS AND TIES.

WHERE "a" AND "b" DIMENSIONS ARE NOT GIVEN, BASE DIMENSIONS ON CLEAR COVER DIMENSIONS FROM OUTER EDGE OF CONCRETE.

UNLESS NOTED OTHERWISE, ALL BAR BEND DIAGRAM'S (°) SHALL BE IN ACCORDANCE WITH LATEST VERSION OF ACI 318.

REBAR LAP SPlice REQUIREMENTS (MIN.)

| LOCATION | | BEAMS AND FOUNDATIONS | | WALLS AND SLABS | |
|----------|-----|-----------------------|----------|-----------------|----------|
| BAR | f'c | 3000 PSI | 4000 PSI | 3000 PSI | 4000 PSI |
| #3 | | 22" | 19" | 16" | 16" |
| #4 | | 29" | 25" | 17" | 16" |
| #5 | | 36" | 31" | 26" | 22" |
| #6 | | 36" | 36" | 36" | 36" |
| #7 | | 42" | 42" | 42" | 42" |
| #8 | | 42" | 42" | 42" | 42" |

GENERAL NOTES:

LAP SPICE LENGTHS ABOVE APPLY TO ALL REINFORCING BARS FOR THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE IN THESE PLANS.

LAP SPICE LENGTHS IN TABLE ABOVE DO NOT PERTAIN TO REINFORCING IN MASONRY CONSTRUCTION. REFER TO GENERAL NOTES FOR SPICE REQUIREMENTS IN MASONRY CONSTRUCTION.

ALL LAP SPLICES PROVIDED ABOVE ARE FOR NORMAL WEIGHT CONCRETE AND GRADE 60 REINFORCING BARS IN TENSION. SPLICES FOR WALL AND SLAB BARS ARE BASED ON A MINIMUM OF 1" CLEAR COVER.

FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.