GENERAL

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO:

   2009 INTERNATIONAL BUILDING CODE
   ANSI/ASCE 7-05
   ACI 318-08 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
   ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
   AISC STEEL CONSTRUCTION MANUAL
   ANSI/AF&PA NDS-2005
   ACI 530-08/ASCE 5-08/TMS 402-08 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"

ANY DISCREPANCIES BETWEEN THE ABOVE LISTED CODES AND THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH AFFECTED WORK.

2. ALL WORK SHALL BE PERFORMED BY PERSONS QUALIFIED IN THEIR TRADE AND LICENSED TO PRACTICE SUCH TRADE IN THE STATE IN WHICH THE PROJECT IS LOCATED.
3. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH ANY ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS IN ADDITION TO SPECIFICATIONS AND ANY SHOP DRAWINGS PROVIDED BY SUBCONTRACTORS AND SUPPLIERS.
4. ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS SHALL BE VERIFIED IN THE FIELD BY THE GENERAL CONTRACTOR (G.C.) AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE AFFECTED PART OF WORK.
5. UNLESS OTHERWISE NOTED, DETAILS, SECTIONS, AND NOTES SHOWN ON THESE DRAWINGS SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR DETAILS.
6. THESE DRAWINGS DO NOT SHOW SIZE, LOCATION, OR TYPE OF OPENINGS IN THE FOUNDATION SYSTEM FOR ELECTRICAL, PLUMBING, OR MECHANICAL EQUIPMENT. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING THESE ITEMS.
7. ALL SHOP DRAWINGS PROVIDED BY OTHERS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE FABRICATION OF MATERIAL OR THE PURCHASE OF NON-RETURNABLE STOCK. QUANTITY AND DIMENSIONAL REVIEW IS THE CONTRACTOR'S RESPONSIBILITY.
8. PERIMETER DRAINS ARE REQUIRED AS SHOWN ON DRAWINGS AND/OR GEOTECHNICAL REPORT.
9. ANY AND ALL TEMPORARY BRACING OR SHORING WHICH IS NEEDED TO HOLD THE STRUCTURE IN A SAFE AND STABLE POSITION UNTIL THE BUILDING IS COMPLETE, IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CONSULT INDEPENDENT ENGINEER IF DESIGN ASSISTANCE OR REVIEW IS NEEDED.
10. THE BUILDING PERMIT APPLICANT (e.g. OWNER, CONTRACTOR) MUST PROVIDE SPECIAL INSPECTIONS PER THE REQUIREMENTS OF CHAPTER 17 OF THE 2009 INTERNATIONAL BUILDING CODE AND FURNISH INSPECTION REPORTS TO THE CODE OFFICIAL AND TO THE ENGINEER OF RECORD. THE TESTING/INSPECTION AGENCY(S) MUST BE APPROVED BY THE ENGINEER OF RECORD. A SCHEDULE OF SPECIAL INSPECTIONS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL, OR PROVIDED BY ENGINEER UPON REQUEST.

DESIGN LOADS

1. THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2009 INTERNATIONAL BUILDING CODE, TO SUPPORT THE DEAD LOADS OF THE VARIOUS STRUCTURAL AND ARCHITECTURAL SYSTEMS SHOWN AND THE FOLLOWING MINIMUM LIVE LOADS:

<u>UNIFORMLY DISTRIBUTED LIVE LOADS</u>
RESIDENTIAL - MULTIFAMILY DWELLINGS
PRIVATE ROOMS AND CORRIDORS SERVING THEM 40 PSF
PUBLIC ROOMS AND CORRIDORS SERVING THEM 100 PSF

<u>SNOW</u>

BASIC GROUND SNOW LOAD	Pg = 60 PSF
FLAT ROOF SNOW LOAD	Pf = 50 PSF
SNOW EXPOSURE FACTOR	C_E = 1.0
THERMAL FACTOR	C_T = 1.1
LOAD IMPORTANCE FACTOR	I_S = 1.0

<u>WIND</u>

WIND SPEED	100 MPH
EXPOSURE	C
IMPORTANCE FACTOR	I_W = 1.0
INTERNAL PRESSURE COEFFICIENT	GCpi = +/- .18

WIND PRESSURE ON COMPONENTS AND CLADDING
EFFECTIVE WIND AREA = 10 SF

ZONE 4 INWARD	ZONE 5 INWARD	ZONE 4 OUTWARD	ZONE 5 OUTWARD
28 PSF	28 PSF	-30 PSF	-37 PSF

<u>SEISMIC</u>

SITE CLASS	D (WITH AGGREGATE PIERS)
SEISMIC DESIGN CATEGORY	B
OCCUPANCY CATEGORY	II

BASIC SEISMIC-FORCE-RESISTING SYSTEM:
LIGHT FRAMED WALLS SHEATHED WITH: WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE / GYPSUM WALLBOARD PANELS

ANALYSIS FORCE PROCEDURE = EQUIVALENT LATERAL FORCE

MAPPED SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS S_S = 0.240
MAPPED SPECTRAL RESPONSE ACCELERATION AT 1s PERIOD
S1 = 0.078
DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS
S_{DS} = 0.256
DESIGN SPECTRAL RESPONSE ACCELERATION AT 1s PERIOD
SD1 = 0.125

IMPORTANCE FACTOR	I_E = 1.0
RESPONSE MODIFICATION FACTOR	R = 6.5 / 2
DEFLECTION AMPLIFICATION FACTOR	C_D = 4 / 2
SEISMIC RESPONSE COEFFICIENT	C_S = TBD
DESIGN BASE SHEAR	V = TBD

SOIL BEARING

1. REFER TO GEOTECHNICAL REPORT BY GEOTECHNICAL SERVICES, INC., DATED AUGUST 24, 2013, FOR ALL INFORMATION REGARDING AGGREGATE PIERS, EXCAVATION, BACKFILL, STRUCTURAL FILL, SUBGRADE PREPARATION, ETC. IF ANY CONTRADICTING INFORMATION IS FOUND BETWEEN GEOTECHNICAL REPORT AND STRUCTURAL DRAWINGS, GEOTECHNICAL REPORT SHALL GOVERN.
2. ALL FOOTINGS SHALL BE CARRIED DOWN TO BEAR ON AGGREGATE PIERS OR SHALL BEAR ON MAT OF COMPACTED STRUCTURAL FILL WHICH BEARS ON FIELD OF AGGREGATE PIERS, AS ALLOWED BY GEOTECHNICAL ENGINEER . THE UNDERLYING PIERS SHALL PROVIDE A MINIMUM SAFE LOAD BEARING CAPACITY OF 3000 PSF.
3. REMOVE ALL EXISTING TOPSOIL, PAVEMENT, ORGANIC MATERIALS, OR OTHER SOIL THAT APPEAR TO BE UNSUITABLE PRIOR TO PREPARING THE FOOTING GRADE.
4. IF ANY ADVERSE SOIL CONDITIONS ARE ENCOUNTERED WHICH EXTEND BELOW FOOTING LEVEL, SUCH AS THOSE LISTED ABOVE, THE GENERAL CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR DETERMINATION OF HOW TO REMEDY THE CONDITION BEFORE CONTINUATION OF THE WORK.
5. NO FOOTINGS SHALL BE PLACED IN WATER OR ON FROZEN GROUND. ALL EXTERIOR CONSTRUCTION SHALL BE CARRIED DOWN TO A MINIMUM OF FOUR FEET SIX INCHES (4'-6") BELOW FINISHED, ADJACENT EXTERIOR GRADE.

CAST-IN-PLACE-CONCRETE

1. ALL WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-08) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301)
2. INTERIOR SLABS ON GRADE TO BE OF THICKNESS SHOWN ON DRAWINGS WITH WELDED WIRE MESH REINFORCING AS SHOWN ON THE DRAWINGS.
3. PROVIDE 10-MIL POLYETHYLENE MOISTURE VAPOR RETARDER DIRECTLY BELOW ALL INTERIOR SLABS ON GRADE, UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS. OVERLAP SEAMS MINIMUM 6" AND TAPE AS REQUIRED TO MAINTAIN POSITION.
4. ALL FOOTINGS AND SLABS SHALL BE SUPPORTED BY AGGREGATE PIERS. SEE SOILS BEARING NOTES.
5. MINIMUM CONCRETE PROTECTION FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
   CONCRETE CAST AGAINST EARTH: 3 INCHES
   FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:
   1-1/2 INCHES FOR #5 BARS AND SMALLER
   2 INCHES FOR #6 BARS AND GREATER
6. CALCIUM CHLORIDE IS PROHIBITED IN ANY CONCRETE MIX.
7. CONCRETE SHALL BE ADEQUATELY PROTECTED FROM HOT OR COLD WEATHER AS REQUIRED BY ACI PUBLICATIONS 305 AND 306, RESPECTIVELY.
8. ALL CONCRETE FOR WALLS, FOOTINGS, AND SLABS SHALL ATTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS (U.N.O.). CYLINDERS SHALL BE TAKEN AND TESTED IN ACCORDANCE WITH ACI RECOMMENDATIONS.
9. SLAB CONTROL JOINTS, WHERE SHOWN, SHALL BE SAW CUT AND SHALL BE CUT IMMEDIATELY AFTER FINISHING. JOINTS SHALL BE AT MINIMUM 1/4 OF THE THICKNESS OF THE SLAB.
10. WALL CONTROL JOINTS SHALL BE PLACED AS SHOWN ON DRAWINGS OR AT A MAXIMUM OF 40 FEET ON CENTER.
11. BACKFILL BOTH SIDES OF THE FOUNDATION WALL SIMULTANEOUSLY TO THE MAXIMUM HEIGHT POSSIBLE.
12. ALL CONCRETE SHALL BE CURED BY AN APPROVED METHOD AS PRESCRIBED BY ACI.
13. MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.5 FOR 3000 PSI CONCRETE AND 0.45 FOR 4000 PSI CONCRETE MIXES WITH MID-RANGE WATER REDUCERS (MRWR) USED. W/C RATIO FOR 3000 PSI CONCRETE IN FOOTINGS MAY BE 0.53 WITHOUT THE USE OF MID-RANGE WATER REDUCERS. MINIMUM CEMENT QUANTITIES SHALL BE 517 LB./YD FOR 3000 PSI CONCRETE AND 611 LB./YD FOR 4000 PSI CONCRETE.
14. MAXIMUM CONCRETE SLUMP SHALL BE FOUR INCHES WITHOUT MRWR AND 6 INCHES WITH MRWR. MRWR MUST BE USED IN ALL CONCRETE EXCEPT FOOTINGS.
15. USE AIR-ENTRAINING ADMIXTURES IN CONCRETE SUBJECT TO FREEZING AND THAWING, THIS INCLUDES EXTERIOR FOUNDATION WALLS, EXTERIOR PIERS, AND EXTERIOR SLABS. MAXIMUM AIR CONTENT AT POINT OF DELIVERY TO BE 6 PERCENT, PLUS OR MINUS 1.5 PERCENT.
16. DO NOT USE AIR-ENTRAINING ADMIXTURES IN CONCRETE FOR USE IN INTERIOR SLABS ON GRADE AND SLABS ON STEEL DECK. AIR CONTENT OF TROWELED FINISH FLOORS NOT TO EXCEED 3 PERCENT.
17. REINFORCING BARS AND ALL EMBEDDED ITEMS, INCLUDING ANCHOR BOLTS, MUST BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED <u>BEFORE</u> CONCRETE IS PLACED. <u>"WET-STICKING" OF ANCHOR BOLTS, VERTICAL PIER REINFORCING OR VERTICAL WALL REINFORCING IS NOT ACCEPTABLE (EXCEPT FROST WALL DOWELS).</u>

STRUCTURAL STEEL

1. STRUCTURAL STEEL WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE 2009 INTERNATIONAL BUILDING CODE.
2. STRUCTURAL STEEL WORK SHALL CONFORM TO "SPECIFICATIONS FOR DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (AISC CURRENT EDITION)", "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS (AISC CURRENT EDITION)", AND "STRUCTURAL WELDING CODE (AWS D1.1-04)".
3. STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING:
   A. ROLLED SHAPES AND PLATES - ASTM A36 (EXCEPT AS NOTED BELOW)
   B. WIDE FLANGE SHAPES - ASTM A992, 50 KSI
   C. STRUCTURAL TUBES - ASTM A500, GRADE B
   D. ANCHOR RODS - ASTM F1554 GRADE 36 (HEADED BOLTS)
4. ALL BOLTED CONNECTIONS SHALL USE NEW BOLTS. SLIP-CRITICAL BOLTS ARE PROHIBITED FROM ALL CONNECTIONS. ALL BOLTS SHALL BE INSTALLED AS BEARING TO A 'SNUG-TIGHTENED' CONDITION, UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL BOLTED CONNECTIONS SHALL BE DESIGNED, FABRICATED, AND INSTALLED IN COMPLIANCE WITH RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", DATED DECEMBER 31, 2009.
5. VOIDS BENEATH COLUMN BASE PLATES SHALL BE DRY PACKED WITH NON-SHRINK CONSTRUCTION GROUT BEFORE APPLICATION OF LOADS.
6. WELDED CONNECTIONS SHALL BE MADE BY AWS QUALIFIED WELDERS USING FILLER MATERIAL CONFORMING TO E70XX, LOW HYDROGEN.
7. PROVIDE TEMPORARY ERECTION BRACING TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN PLACE. MAINTAIN BRACING UNTIL ROOF DECK AND PERMANENT LATERAL BRACING ARE FULLY INSTALLED. BRACING REQUIREMENTS ARE NOT PROVIDED BY THE E.O.R.
8. STRUCTURAL STEEL SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.
9. FIELD CUTTING OF STRUCTURAL STEEL OR ANY MODIFICATIONS SHALL NOT BE MADE WITHOUT APPROVAL BY ENGINEER.
10. ALL CONNECTIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER RETAINED BY THE FABRICATOR. SHOP DRAWINGS AND STAMPED CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. FABRICATOR'S ENGINEER SHALL BE LICENSED IN THE STATE THE PROJECT IS LOCATED, AND CARRY PROFESSIONAL LIABILITY INSURANCE WITH A MINIMUM PER INCIDENT AND ANNUAL COVERAGE OF $500,000.
11. ALL STRUCTURAL STEEL SHALL RECEIVE ONE (1) SHOP COAT OF RUST INHIBITIVE PRIMER. COMPOSITE BEAMS WITH SHEAR STUDS SHALL HAVE UNPAINTED TOP FLANGES TO ALLOW THE WELDING OF SHEAR STUDS.
12. THE STEEL FABRICATOR SHALL BE AISC CERTIFIED, OR BE ABLE TO DEMONSTRATE TO THE ENGINEER'S SATISFACTION THAT ALL AISC PROCEDURES FOR FABRICATION, QUALITY CONTROL, AND RECORD KEEPING ARE STRICTLY ADHERED TO. THE ENGINEER SHALL DETERMINE IF FABRICATOR QUALIFICATIONS ARE ACCEPTABLE.
13. SHOP DRAWINGS SHALL BE PREPARED BY FABRICATOR. PHOTO COPIES OF STRUCTURAL DRAWINGS ARE NOT ACCEPTABLE.
14. THE TESTING AGENCY (TO BE APPROVED BY JSN ASSOCIATES, INC.) MUST PERFORM A VISUAL INSPECTION OF ALL SHOP AND FIELD WELDS. ADDITIONALLY, ALL SHOP AND FIELD FILLET AND PARTIAL PENETRATION WELDS MUST BE SPOT TESTED AT A RATE OF ONE TEST PER MEMBER USING THE MAGNETIC PARTICLE METHOD. ONE HUNDRED PERCENT (100%) OF ALL FIELD AND SHOP FULL PENETRATION WELDS MUST BE TESTED USING THE ULTRASONIC METHOD.
15. ALL HSS COLUMNS SHALL BE SEALED TO PREVENT WATER PENETRATION DURING CONSTRUCTION OR DURING SERVICE AND SHALL BE PROVIDED WITH A DRAIN HOLE NEAR THE BASE ON SIDE OF COLUMN.

CONCRETE MASONRY UNIT CONSTRUCTION

1. CONCRETE MASONRY UNIT (CMU) CONSTRUCTION SHALL CONFORM TO 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES' (ACI 530-08 / ASCE 5-08 / TMS 402-08).
2. REINFORCED MASONRY SHALL CONSIST OF MASONRY UNITS, MORTAR BETWEEN UNITS, GROUT IN CELLS, LINTELS, BOND BEAMS, HORIZONTAL JOINT REINFORCING, AND STEEL REINFORCING IN VERTICAL CELLS, BOND BEAMS AND LINTELS.
3. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND SHALL HAVE A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 1900 PSI. CERTIFICATION OF UNIT STRENGTH SHALL BE PROVIDED BY MANUFACTURER.
4. GROUT SHALL BE CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH (F'c) OF 2000 PSI, WITH A MAXIMUM COARSE AGGREGATE SIZE OF 3/8", SLUMP AT POINT OF PLACEMENT OF 8 TO 11 INCHES, AND DESIGNED FOR PUMPING. GROUT SHALL CONFORM TO ASTM C476 'SPECIFICATION FOR MORTAR AND GROUT FOR MASONRY.'
5. THE MINIMUM COMPRESSIVE STRENGTH OF CMU CONSTRUCTION (F'M) SHALL BE 1500 PSI AND SHALL BE DETERMINED USING THE UNIT STRENGTH METHOD PER ACI 530-08/ASCE 5-08/TMS 402-08 SECTION 1.4.
6. MORTAR FOR REINFORCED MASONRY SHALL MEET THE APPLICABLE REQUIREMENTS OF ASTM SPECIFICATION C270, TYPE S.
7. GROUT AND MORTAR SHALL BE KEPT ENTIRELY SEPARATE, AND SHALL NOT BE USED INTERCHANGEABLY.
8. PROVIDE LADDER-MESH HORIZONTAL JOINT REINFORCEMENT AT 16" ON CENTER (EVERY OTHER COURSE), CONFORMING TO ANSI/ASTM A82, WITH 9-GAGE SIDE RODS AND CROSS TIES. JOINT REINFORCEMENT SHALL BE CONTINUOUS WITH SECTIONS LAPPED 6" MINIMUM, EXCEPT AT CONTROL JOINTS WHERE JOINT REINFORCING SHALL TERMINATE. JOINT REINFORCEMENT IN EXTERIOR WALLS AND INTERIOR WALLS EXPOSED TO MOISTURE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION (ASTM A153). JOINT REINFORCEMENT IN ALL OTHER WALLS SHALL BE MILL GALVANIZED (ASTM A641).
9. TYPICAL VERTICAL REINFORCING SHALL BE #5 BARS AT 24" ON CENTER, UNLESS NOTED OTHERWISE ON PLANS. VERTICAL REINFORCING SHALL BE PLACED AT EACH JAMB OF EACH WALL OPENING AND AT EACH CORNER AND WALL INTERSECTION.
10. PLACE REINFORCEMENT AND TIES IN GROUT SPACES PRIOR TO GROUTING (PER ACI 530.1 SECTION 3.2E). THIS IS REQUIRED IN ORDER TO AVOID LOSS OF BOND AND MISALIGNMENT OF REINFORCING BARS.
11. VERTICAL REINFORCING SHALL BE CONTINUOUS AND SHALL LAP A MINIMUM OF 48 BAR DIAMETERS, (30" FOR #5 BARS). BARS SHALL BE SUPPORTED BY WIRE POSITIONERS AS REQUIRED TO MAINTAIN PROPER POSITION IN CELL.
12. CELLS ARE TO BE GROUTED USING LOW-LIFT GROUTING PROCEDURES. CELLS SHALL BE FILLED TO DEPTH OF 4' AND RODDED OR VIBRATED, PERMITTED TO REST FOR A PERIOD OF 30-60 MINUTES, AN ADDITIONAL 4' DEPTH FILLED, AND AGAIN RODDED OR VIBRATED. SECOND VIBRATING SHALL EXTEND AT LEAST 12" INTO PREVIOUSLY GROUTED LAYER. GROUT SHALL BE PUMPED INTO PLACE. GROUT LEVEL AT EACH LIFT SHALL STOP MIN 1/2" BELOW TOP OF CMU TO FORM A KEYWAY.
13. IF HIGH-LIFT GROUTING IS DESIRED, THE CONTRACTOR MUST SUBMIT A WRITTEN PROPOSED PROCEDURE COMPLYING WITH ACI CODE TO THE ENGINEER FOR REVIEW AND APPROVAL.
14. MORTAR PLASTICITY SHALL BE MAINTAINED BY RE-TEMPERING AS REQUIRED UP TO 2-1/2 HOURS AFTER ORIGINAL MIXING. MORTAR REQUIRING RE-TEMPERING AFTER THAT PERIOD SHALL BE DISCARDED.
15. GROUT SHALL NOT BE RE-TEMPERED, BUT SHALL BE DISCARDED IMMEDIATELY IF PLASTICITY IS LOST BEFORE GROUT IS PLACED IN WALL. GROUT SHALL BE USED WITHIN 1-1/2 HOURS OF INITIAL MIXING.
16. COLD OR HOT WEATHER MASONRY CONSTRUCTION SHALL CONFORM TO THE ACI 530-08/ASCE 5-08/TMS 402-08 SECTION 1.8 AND ACI 305 AND 306, RESPECTIVELY.
17. METAL LATH SHALL BE USED UNDER BOND BEAMS TO CONFINE GROUT FROM HOLLOW CORES.
18. PROCEDURES OF NCMA-TEK #3-3A SHALL BE FOLLOWED FOR ALL REINFORCED MASONRY CONCRETE CONSTRUCTION.
19. LAY ALL CONCRETE MASONRY UNITS IN RUNNING BOND, UNLESS NOTED OTHERWISE.
20. INSPECTION OF MASONRY CONSTRUCTION SHALL BE PERFORMED AS REQUIRED BY IBC 2009 CHAPTER 17.

REINFORCING STEEL

1. ALL REINFORCING SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60.
2. WELDED WIRE FABRIC REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A1064. USE FLAT SHEETS ONLY.
3. ALL REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST ACI DETAILING MANUAL.
4. WHERE CONTINUOUS BARS ARE CALLED FOR, INDICATED, REQUIRED, THEY SHALL RUN CONTINUOUSLY AROUND CORNERS, LAPPED AT NECESSARY SPLICES, SPLICES STAGGERED AND HOOKED AT DISCONTINUOUS ENDS. LAP LENGTHS SHALL BE AS SHOWN OR NOTED ON THE DRAWINGS. IF LAP/SPLICE LENGTHS ARE NOT INDICATED FOLLOW ACI STANDARDS.

SLAB-ON-GRADE CONTROL JOINTS

1. CONTROL JOINTS IN CONCRETE SLABS ARE GENERALLY SPACED IN A MANNER TO CONTROL CRACK LOCATIONS OCCURRING DUE TO CURING SHRINKAGE AND THERMAL MOVEMENT OF CONCRETE. WELDED WIRE FABRIC DOES NOT INHIBIT CRACKING, BUT HOLDS CONCRETE TIGHTLY TOGETHER AFTER CRACKING HAS OCCURRED. IN ORDER TO BETTER CONTROL RANDOM CRACKING OF CONCRETE THE FOLLOWING MEASURES ARE RECOMMENDED:
   A. SUPPLY A WELL COMPACTED AND CONSISTENT SUBGRADE.
   B. LIMIT WATER VOLUME IN CONCRETE USING A STIFFER MIX.
   C. SUPPLY ADEQUATE CURING MEASURES. WET CURE OR USE CURING SEALERS.
   D. LIMIT JOINT SPACING TO 2 TIMES SLAB THICKNESS IN FEET.
2. SLAB CURLING IS ALSO A PROBLEM WHICH HAS BECOME MORE PREVALENT WITH MODERN CONCRETE MIXES WHICH HAVE HIGHER STRENGTHS. THE FOLLOWING MEASURES IN ADDITION TO THOSE STATED ABOVE ARE RECOMMENDED TO LIMIT CURLING OF CONCRETE SLABS-ON-GRADE:
   A. CURE THE SLAB PROPERLY.
   B. USE HIGHER QUANTITY OF COARSE AGGREGATES IN THE MIX.
   C. USE A LOWER AMOUNT OF CEMENT.

PRESSURE TREATED LUMBER

1. PRESSURE TREATED LUMBER SHALL BE TREATED WITH AN ACQ PROCESS SUITABLE TO EXTERIOR EXPOSED SERVICE. <u>DO NOT ALLOW ACQ TREATMENT WITH AMMONIA</u>.
2. USE PT SOUTHERN PINE LUMBER FOR ALL EXTERIOR FRAMING AND FOR SILL PLATES ON FOUNDATION WALLS AND INTERIOR SLABS ON GRADE.
3. USE HOT DIPPED GALVANIZED ANCHOR BOLTS TO FASTEN PT PLATES TO FOUNDATION WALLS. USE STAINLESS STEEL OR OTHERWISE ACCEPTED CORROSION RESISTANT POWER ACTUATED FASTENERS IN ALL PLATE TO SLAB CONNECTIONS. USE HOT DIP GALV. NAILS IN ALL FRAMING CONNECTIONS TO PT.
4. USE G185 GALVANIZED CONNECTORS (SIMPSON ZMAX OR EQUAL) AND HOT DIPPED GALVANIZED NAILS (G185 OR EQ.) FOR ALL PT CONNECTIONS. USE STAINLESS STEEL CONNECTORS AND STAINLESS STEEL NAILS IN HIGHLY CORROSIVES AREAS SUCH AS OCEAN FRONT.
5. FAILURE TO FOLLOW THESE NOTES MAY RESULT IN A RAPID CORROSION OF METAL FASTENERS AND CONNECTORS AND STRUCTURAL FAILURE.

WOOD FRAMING

1. ALL FRAMING SHALL BE SPRUCE-PINE-FIR, NO. 2 OR BETTER , UNLESS OTHERWISE NOTED OR SHOWN ON THE DRAWINGS.
2. ALL TWO (2) INCH NOMINAL LUMBER SHALL BE SEASONED TO 19% MAXIMUM MOISTURE CONTENT.
3. ALL LUMBER AND PLYWOOD SHALL BE GRADE-STAMPED BY THE APPROPRIATE MANUFACTURER'S ASSOCIATION FOR THE APPROPRIATE USE.
4. ALL WOOD IN CONTACT WITH CONCRETE, MASONRY, OR EARTH SHALL BE PRESSURE TREATED SOUTHERN PINE.
5. ALL WOOD FRAMING SHALL BE BUILT PLUMB, LEVEL, SQUARE, AND TRUE WITH ADEQUATE BRACING AND CONNECTION HARDWARE TO ENSURE A RIGID STRUCTURE.
6. FRAMING CONNECTIONS SHALL BE ACCURATELY CUT AND TIGHTLY FITTED AS NECESSITATED BY THE CONDITIONS ENCOUNTERED TO PROVIDE FULL SURFACE CONTACT WITHOUT USE OF SHIMS.
7. ALL WOOD SHEATHING SHALL BE APA RATED STRUCTURAL 1, EXPOSURE 1, UNLESS NOTED OTHERWISE. SHEATHING SHALL BE ADEQUATELY SPACED AT JOINTS (1/8" TYP) AS RECOMMENDED BY THE APA FOR EXPANSION.
8. ALL FLOOR SHEATHING SHALL BE 3/4" TONGUE AND GROOVE, GLUED AND NAILED, UNLESS OTHERWISE NOTED. SEE NOTE #7 FOR APA RATING.
9. ALL SHEATHING SHALL BE LAID WITH LONG DIMENSIONS PERPENDICULAR TO SUPPORTS AND BE CONTINUOUS OVER TWO OR MORE SUPPORTS. STAGGER ALL JOINTS.
10. ALL SHEATHING SHALL BE NAILED 6" ON CENTER AT SUPPORTED PANEL EDGES AND AT 10" ON CENTER AT INTERMEDIATE SUPPORTS, UNLESS OTHERWISE SHOWN OR NOTED (SPECIFIC SHEAR WALLS & DIAPHRAGMS).
11. ALL INTERIOR DOOR HEADERS SHALL CONSIST OF TWO 2X8'S WITH ONE LAYER OF 1/2" PLYWOOD SPACER, UNLESS OTHERWISE NOTED OR SHOWN ON THE DRAWINGS. ALL EXTERIOR WINDOW AND DOOR HEADERS OVER THREE (3) FEET WIDE SHALL BE THREE 2X10'S WITH TWO LAYERS OF 1/2" PLYWOOD, U.N.O.
12. ALL HEADERS OVER SIX (6) FEET IN LENGTH SHALL BEAR ON DOUBLE STUD POSTS AS A MINIMUM, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
13. SIMPSON CONSTRUCTION HARDWARE (OR APPROVED EQUAL) SHALL BE FASTENED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND NAILING SCHEDULE. THE GENERAL CONTRACTOR MUST BE FAMILIAR WITH, AND HAVE THE APPROPRIATE PRODUCT CATALOGS ON SITE.
   A. ALL SPECIFIED FASTENERS MUST BE INSTALLED ACCORDING TO THE INSTRUCTIONS IN THE SIMPSON CATALOG. INCORRECT FASTENER QUANTITY, SIZE, TYPE, MATERIAL, OR FINISH MAY CAUSE THE CONNECTION TO FAIL. 16d FASTENERS ARE COMMON NAILS (8 GAGE X 3-1/2") AND CANNOT BE REPLACED WITH 16d SINKERS (9 GAGE X 3-1/4") UNLESS OTHERWISE SPECIFIED.
   B. BOLT HOLES SHALL BE A MINIMUM OF 1/32" AND A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER (PER THE 2005 NDS, SECTION 11.1.2.2.).
   C. INSTALL ALL SPECIFIED FASTENERS BEFORE LOADING THE CONNECTION.
   D. PNEUMATIC NAILERS MAY BE USED TO INSTALL CONNECTORS, PROVIDED THE CORRECT QUANTITY AND TYPE OF NAILS ARE PROPERLY INSTALLED IN THE NAIL HOLES. TOOLS WITH NAIL HOLE-LOCATING MECHANISMS SHOULD BE USED. FOLLOW THE MANUFACTURER'S INSTRUCTIONS AND USE THE APPROPRIATE SAFETY EQUIPMENT.
   E. JOIST SHALL BEAR COMPLETELY ON THE CONNECTOR SEAT AND THE GAP BETWEEN THE JOIST AND THE HEADER SHALL NOT EXCEED 1/8".
14. BEAMS NOTED AS "LVL" SHALL BE "MICROLLAM" AS MANUFACTURED BY TRUSJOIST (E=1,900,000 PSI, Fb=2600 PSI). BEAMS NOTED AS "PSL" SHALL BE "PARALLAM" AS MANUFACTURED BY TRUSJOIST (E=2,000,000 PSI, Fb=2900 PSI). MICROLLAM AND PARALLAM PRODUCTS SHALL BE PROPERLY STORED AND PROTECTED FROM WATER DAMAGE DURING CONSTRUCTION.
15. COLUMNS NOTED AS "PSL" SHALL BE "PARALLAM" AS MANUFACTURED BY TRUSJOIST (E=1,800,000 PSI, Fc=2400 PSI). PARALLAM PRODUCTS SHALL BE PROPERLY STORED AND PROTECTED FROM WATER DAMAGE DURING CONSTRUCTION.
16. UNLESS NOTED OTHERWISE, MINIMUM FASTENING OF WOOD MEMBERS SHALL CONFORM TO TABLE 2304.9.1 OF THE IBC.
17. ALL POSTS SHALL CONTINUE TO THE FOUNDATION. UNLESS OTHERWISE INDICATED, INSTALL SOLID BLOCKING WITHIN FLOOR PLENUM TO PROVIDE CONTINUITY OF LOAD PATH.

<u>MINIMUM DESIGN REACTION SCHEDULE</u>
(FOR BEAM REACTIONS NOT SHOWN ON PLANS OR DETAILS)

BEAM	MINIMUM NUMBER OF BOLTS	SHEAR TAB TO COLUMN	DOUBLE ANGLE TO BEAM
W8	2	12.4 KIPS	12.4 KIPS
W10	2	13.8 KIPS	13.8 KIPS
W12	3	23.0 KIPS	23.0 KIPS
W14	3	26.4 KIPS	26.4 KIPS
W16	4	39.0 KIPS	39.0 KIPS
W18	5	53.0 KIPS	51.9 KIPS
W21	6	63.6 KIPS	83.6 KIPS
W24	7	74.2 KIPS	110.6 KIPS
W27	7	74.2 KIPS	128.8 KIPS
W30	8	84.8 KIPS	151.3 KIPS
W33	9	95.4 KIPS	185.0 KIPS
W36	10	103.0 KIPS	205.0 KIPS

NOTE: UNLESS REACTIONS ARE NOTED ON PLANS, BEAM CONNECTIONS SHALL BE DESIGNED FOR THESE REACTIONS AND PROVIDED WITH THESE MINIMUM BOLT QUANTITIES. FABRICATOR SHALL PROVIDE SHOP DRAWINGS INDICATING THE PROVIDED CAPACITY OF ALL TYPICAL CONNECTIONS.
TABLE ASSUMPTIONS:
- LEAST WEB THICKNESS FOR BEAM DEPTH SERIES
- 3/8" 36 KSI SINGLE SHEAR PLATE OR 5/16" 36KSI DOUBLE ANGLES
- 3/4" DIA. A325 BOLTS W/THREADS INCLUDED
- STANDARD SIZE BOLT HOLES
- BEAM COPED TOP AND BOTTOM
- DISTANCE FROM END OF BEAM TO CENTER OF BOLT HOLES = 1½" MINIMUM
- DISTANCE FROM TOP OF COPED WEB TO CENTER OF FIRST BOLT HOLE = 1¼" MINIMUM

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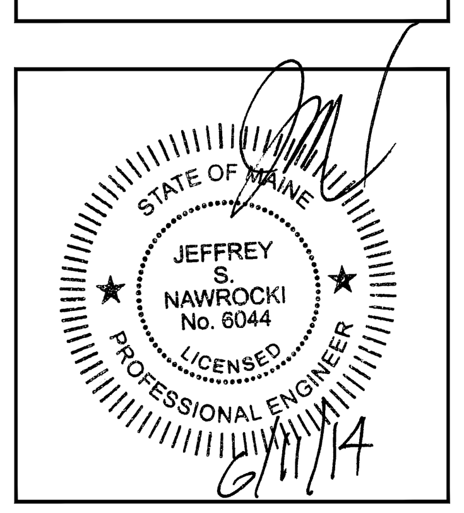

Date:	06/11/14
Scale:	As Noted
Design By:	MJA
Approved By:	JSN

Revisions

Notes

SN.0

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