

GENERAL

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO: 2003 INTERNATIONAL BUILDING CODE ANS/ASCE 7-02 ACI 318-02 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" AISC STEEL CONSTRUCTION MANUAL ANS/AISC 360-10
- 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.
- 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.
- 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.
- 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.
- UNLESS OTHERWISE NOTED, DETAILS, SECTIONS, AND NOTES SHOWN ON THESE DRAWINGS SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR DETAILS.
- 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 OF THESE ITEMS.
- 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.
- FOUNDATION DRAINS ARE REQUIRED AS SHOWN ON DRAWINGS AND/OR GEOTECHNICAL REPORT.
- 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.
- THE BUILDING PERMIT APPLICANT (E.G. OWNER, CONTRACTOR) MUST PROVIDE SPECIAL INSPECTIONS PER THE REQUIREMENTS OF CHAPTER 17 OF THE 2000 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 IS LISTED ON SHEET SP.
- THE ENGINEER, AT HIS OPTION, MAY PROVIDE THE CONTRACTOR WITH ELECTRONIC FILES FOR HIS/HER CONVENIENCE AND USE IN THE PREPARATION OF SHOP DRAWINGS. DATA CONTAINED ON THESE ELECTRONIC FILES ARE THE ENGINEER'S INSTRUMENT OF SERVICE AND MAY NOT BE ELECTRONICALLY COPIED FOR REUSE AS SHOP DRAWINGS. FURTHERMORE, THESE ELECTRONIC FILES ARE NOT CONSTRUCTION DOCUMENTS AND THEREBY, THE CONTRACTOR IS NOT RELIEVED OF HIS/HER DUTY TO FULLY COMPLY WITH THE CONTRACT DOCUMENTS, INCLUDING, WITHOUT LIMITATION, THE NEED TO CHECK, CONFIRM AND COORDINATE ALL DIMENSIONS AND DETAILS, TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS AND COORDINATE THE CONTRACTOR'S WORK WITH THAT OF OTHER CONTRACTORS FOR THE PROJECT. ADDITIONALLY, THE CONTRACTOR MAY NOT MANUALLY ALTER THE HARD COPIES OF THE CONSTRUCTION DOCUMENTS AND REUSE THEM AS SHOP DRAWINGS.

DESIGN LOADS

- THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH IBC 2003 TO CARRY ALL THE DEAD LOADS OF THE VARIOUS STRUCTURAL, ARCHITECTURAL, MECHANICAL, AND OTHER SYSTEMS AS PROVIDED TO THE ENGINEER AT THE TIME OF THE ISSUANCE OF THESE DRAWINGS. THE STRUCTURE IS DESIGNED TO CARRY THE FOLLOWING LIVE LOADS:
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|----------------------------------|---|
| RESIDENTIAL COURTYARD | 40 PSF LIVE/2ND, 3RD, AND 4TH FLOORS) |
| GARAGE | 100 PSF LIVE/SNOW
40 PSF LIVE/3000 LBS. POINT LOAD |
| BASIC GROUND SNOW LOAD | 60 PSF |
| C _s | = 1.0 |
| C _e | = 1.1 |
| I _s | = 1.0 |
| ROOF TRUSSES | SEE WOOD TRUSSES ON SHEET SN.1 |
| WIND SPEED | = 100 MPH |
| EXPOSURE 'C' | |
| W | = 1.0 |
| SEISMIC SITE CLASS 'D' | |
| I _e | = 1.0 |
| S _{DS} | = 0.25 |
| S _{D1} | = 0.07 |
| SEISMIC PERFORMANCE CATEGORY 'B' | |

SOIL BEARING

- ALL FOOTINGS SHALL BE CARRIED DOWN TO REST ON UNDISTURBED SOIL OR SHALL BEAR ON STRUCTURAL FILL COMPACTED IN 12" LAYERS TO 95% COMPACTION OR ON RAMMED EARTH PIERS (SEE GEOPILE FOUNDATIONS). THE UNDERLYING SOILS AND THE STRUCTURAL FILL SHALL HAVE A MINIMUM SAFE LOAD BEARING CAPACITY OF 3000 PSF.
- REMOVE ALL EXISTING TOPSOIL, PAVEMENT, ORGANIC MATERIALS, OR OTHER SOIL THAT APPEAR TO BE UNSUITABLE PRIOR TO PREPARING THE FOOTING GRADE.
- IF ANY ADVERSE SOIL CONDITIONS ARE ENCOUNTERED WHICH EXTEND BELOW FOOTING LEVEL, SUCH AS THOSE LISTED ABOVE AND NOTED IN THE GEOTECHNICAL REPORT, THE GENERAL CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR DETERMINATION OF HOW TO REMEDY THE CONDITION BEFORE CONTINUATION OF THE WORK.
- NO FOOTINGS SHALL BE PLACED IN WATER OR ON FROZEN GROUND. ALL EXTERIOR CONSTRUCTION SHALL BE CARRIED DOWN TO A MINIMUM OF FOUR FEET AND SIX INCHES (4'-6") BELOW FINISHED, ADJACENT EXTERIOR GRADE.
- REFER TO GEOTECHNICAL REPORT BY SEBAGO TECHNICS, INC. FOR ALL INFORMATION REGARDING EXCAVATION, BACKFILL, STRUCTURAL FILL, SUBGRADE PREPARATION, ETC. IF ANY CONTRADICTING INFORMATION IS FOUND BETWEEN GEOTECHNICAL REPORT AND STRUCTURAL DRAWINGS, GEOTECHNICAL REPORT SHALL GOVERN.

CAST-IN-PLACE-CONCRETE

- ALL WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-99) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301)
- INTERIOR SLABS ON GRADE TO BE OF THICKNESS SHOWN ON DRAWINGS WITH WELDED WIRE MESH. SEE DETAILS FOR SIZE AND LOCATION.
- PROVIDE 10-MIL REINFORCED POLYETHYLENE MOISTURE VAPOR RETARDER DIRECTLY BELOW ALL INTERIOR SLABS ON GRADE. OVERLAP SEAMS MINIMUM 6" AND TAPE AS REQUIRED TO MAINTAIN POSITION.
- ALL FOOTINGS ARE TO REST ON UNDISTURBED SOIL OR CLEAN GRANULAR FILL COMPACTED IN LAYERS OF 12" OR LESS TO 95% COMPACTION.
- 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
- CALCIUM CHLORIDE IS PROHIBITED IN ANY CONCRETE MIX.
- CONCRETE SHALL BE ADEQUATELY PROTECTED FROM HOT OR COLD WEATHER AS REQUIRED BY ACI PUBLICATIONS 308 AND 306, RESPECTIVELY.
- ALL CONCRETE FOR WALLS, FOOTINGS, AND INTERIOR 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. EXTERIOR SLABS SHALL ATTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
- 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.
- WALL CONTROL JOINTS SHALL BE PLACED AS SHOWN ON DRAWINGS OR AT A MAXIMUM OF 40 FEET ON CENTER.
- BACKFILL BOTH SIDES OF THE FOUNDATION WALL SIMULTANEOUSLY TO THE MAXIMUM HEIGHT POSSIBLE.
- ALL CONCRETE SHALL BE CURED BY AN APPROVED METHOD AS PRESCRIBED BY ACI.
- 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.
- MAXIMUM CONCRETE SLUMP SHALL BE 4 INCHES WITHOUT MRWR AND 6 INCHES WITH MRWR. MRWR MUST BE USED IN ALL CONCRETE EXCEPT FOOTINGS.

REINFORCING STEEL

- ALL REINFORCING, EXCEPT AS NOTED, SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60.
- WELDED WIRE FABRIC REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A185. USE FLAT SHEETS ONLY.
- ALL REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST ACI DETAILING MANUAL.
- 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

- 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.
- 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.

RAMMED AGGREGATE PIERS

- RAMMED AGGREGATE PIERS AND GROUTED RAMMED AGGREGATE PIERS SHALL BE PROVIDED BENEATH COLUMN FOOTINGS AND WALL FOOTINGS AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE STRUCTURAL ENGINEER.
- THE AGGREGATE PIER INSTALLER SHALL RETAIN A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF MAINE, TO PROVIDE STAMPED SHOP DRAWINGS FOR THE STRUCTURAL ENGINEER'S REVIEW.
- THE SHOP DRAWINGS SHALL INDICATE FOOTING LOCATIONS WHERE THE FOOTING DESIGNED FOR SPREAD-FOOTING BEARING CONDITIONS IS REQUIRED TO BE INCREASED OR RECONFIGURED TO ACCOMMODATE THE AGGREGATE PIER LAYOUT AND GEOMETRY. G.C. NOTE THAT SOME FOOTINGS MAY INCREASE IN SIZE TO ACCOMMODATE PIER LAYOUT.
- SEE DETAIL 3/50.6 FOR RAMMED AGGREGATE PIER LAYOUT PLAN.

STRUCTURAL STEEL

- STRUCTURAL STEEL WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE 2003 INTERNATIONAL BUILDING CODE.
- 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 D.1)".
- STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING:
A) ROLLED SHAPES AND PLATES - ASTM A56 (EXCEPT AS NOTED BELOW)
B) WIDE FLANGE SHAPES - ASTM A572, 50 KSI
C) STRUCTURAL TUBES - ASTM A500, GRADE B
D) ANCHOR RODS - ASTM F1554 GRADE 36 (HEADED BOLTS)
- 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 ASTM A325 OR A490 BOLTS", DATED JUNE 23, 2000.
- SINGLE ANGLE SHEAR CONNECTIONS SHALL NOT BE USED.
- VOIDS BENEATH COLUMN BASE PLATES SHALL BE DRY PACKED WITH NON-SHRINK CONSTRUCTION GROUT BEFORE APPLICATION OF LOADS.
- WELDED CONNECTIONS SHALL BE MADE BY AWS QUALIFIED WELDERS USING FILLER MATERIAL CONFORMING TO E70XX.
- PROVIDE TEMPORARY ERECTION BRACING TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN PLACE. MAINTAIN BRACING UNTIL FLOOR DECK AND PERMANENT LATERAL BRACING ARE FULLY INSTALLED. BRACING REQUIREMENTS ARE NOT PROVIDED BY THE E.O.R.
- STRUCTURAL STEEL SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.
- ALL BOLTS AND FIELD WELDING MUST BE COMPLETED PRIOR TO RELEASING HOISTING CABLES.
- FIELD CUTTING OF STRUCTURAL STEEL OR ANY MODIFICATIONS SHALL NOT BE MADE WITHOUT APPROVAL BY ENGINEER.
- 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 ME AND CARRY PROFESSIONAL LIABILITY INSURANCE WITH A MINIMUM PER INCIDENT AND ANNUAL COVERAGE OF \$1,000,000.
- ALL STRUCTURAL STEEL SHALL RECEIVE ONE (1) SHOP COAT OF RUST INHIBITIVE PRIMER OR TEMPORARY COATING APPROPRIATE FOR INTERSCENT PAINT. ALL STEEL EXPOSED TO WEATHER OR OUTSIDE THE MAIN ENVELOPE OF THE BUILDING SHALL BE HOT-DIP GALVANIZED. DO NOT PAINT TOP FLANGE WHERE STEEL STUDS WILL BE WELDED FOR COMPOSITE CONSTRUCTION.
- THE SHEAR 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.
- SHOP DRAWINGS SHALL BE PREPARED BY FABRICATOR. PHOTO COPIES OF STRUCTURAL DRAWINGS ARE NOT ACCEPTABLE.
- THE TESTING AGENCY (TO BE APPROVED BY JSN ASSOCIATES, INC.) MUST PERFORM A VISUAL INSPECTION OF ALL FIELD WELDS. ADDITIONALLY, ALL FIELD FILLET WELDS GREATER THAN 5/16" AND MULTIPASS WELDS 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.

- 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.
- 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" DEPTHS FILLED, AND AGAIN RODDED OR VIBRATED. THIRD 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.
- 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.
- 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.
- 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.
- COLD OR HOT WEATHER MASONRY CONSTRUCTION SHALL CONFORM TO THE ACI 530-99/ASCE 5-99/TMS 402-99 SECTION 1.0 AND ACI 305 AND 306, RESPECTIVELY.
- METAL LATH SHALL BE USED UNDER BOND BEAMS TO CONFINE GROUT FROM HOLLOW CORES.
- PROCEDURES OF NCHM-TEK #3-3A SHALL BE FOLLOWED FOR ALL REINFORCED MASONRY CONCRETE CONSTRUCTION.
- LAY ALL CONCRETE MASONRY UNITS IN RUNNING BOND, UNLESS NOTED OTHERWISE.
- INSPECTION OF MASONRY CONSTRUCTION SHALL BE PERFORMED AS REQUIRED BY IBC 2003 CHAPTER 17. SEE SHEET SN2.

STEEL DECKS

- STEEL FLOOR DECK SHALL BE GALVANIZED 3" LOCK FLOOR, 16 GAGE MINIMUM COMPOSITE DECK AS MANUFACTURED BY 'USD' OR APPROVED EQUAL.
- FLOOR DECKS SHALL SPAN OVER THREE (3) OR MORE SUPPORTS.
- SHEET STEEL FOR GALVANIZED COMPOSITE FLOOR DECKS MUST CONFORM TO ASTM A653-94 "STRUCTURAL QUALITY", GRADE 33 OR HIGHER. GALVANIZING MUST CONFORM TO ASTM A424-94 WITH A MINIMUM COATING CLASS OF G60 AS DEFINED IN A653-94.

FOUNDATION UNDERPINNING

- FOUNDATION UNDERPINNING WILL BE REQUIRED DURING THE COURSE OF CONSTRUCTION. C.M./CONTRACTOR SHOULD CONSULT INDEPENDENT ENGINEER FOR RECOMMENDATIONS AND DESIGN. FINAL DESIGN SHOULD BE SUBMITTED TO E.O.R. FOR REVIEW PRIOR TO PROCEEDING WITH AFFECTED AREA OF WORK.

STEEL STAIRS

- STEEL STAIRS TO BE DESIGNED BY STEEL STAIR FABRICATOR TO CONFORM TO STRUCTURAL AND DIMENSIONAL REQUIREMENTS OF CONTRACT DRAWINGS AND ALL APPLICABLE CODE REQUIREMENTS.
- STEEL STAIR FABRICATOR SHALL PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO START OF FABRICATION.

MASONRY VENEER LINTEL SCHEDULE	
ROUGH OPENING	LINTEL SIZE
UP TO 3'-0"	L3-1/2 x 3-1/2 x 5/16
3'-1" TO 4'-6"	L4 x 3-1/2 x 5/16
4'-6" TO 6'-0"	L5 x 3-1/2 x 5/16
6'-0" TO 8'-0"	L6 x 3-1/2 x 5/16
8'-0" TO 11'-0"	L7 x 4 x 3/8

NOTES:
1. ALL LINTELS SHALL BE HOT DIPPED GALVANIZED.
2. PROVIDE 8" OF BEARING EACH END OF ALL LINTELS.
3. UNEQUAL LEG LINTELS SHALL BE INSTALLED WITH LONG LEG VERTICAL.
4. LINTELS SHOWN ARE FOR 4" VENEER THICKNESS ONLY.

CONCRETE MASONRY UNIT CONSTRUCTION

- CONCRETE MASONRY UNIT (CMU) CONSTRUCTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530-99 / ASCE 5-99 / TMS 402-99).
- 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.
- 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.
- 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".
- THE MINIMUM COMPRESSIVE STRENGTH OF CMU CONSTRUCTION (F_m) SHALL BE 1500 PSI AND SHALL BE DETERMINED USING THE UNIT STRENGTH METHOD PER ACI 530-99/ASCE 5-99/TMS 402-99 SECTION 1.4.
- MORTAR FOR REINFORCED MASONRY SHALL MEET THE APPLICABLE REQUIREMENTS OF ASTM SPECIFICATION C270, TYPE S.
- GROUT AND MORTAR SHALL BE KEPT ENTIRELY SEPARATE, AND SHALL NOT BE USED INTERCHANGEABLY.
- PROVIDE LADDER-MESH HORIZONTAL JOINT REINFORCEMENT AT 16" ON CENTER (EVERY OTHER COURSE), CONFORMING TO ANSI/ASTM A82, WITH 4-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 A641-98). JOINT REINFORCEMENT IN ALL OTHER WALLS SHALL BE MILL GALVANIZED (ASTM A183-98).
- TYPICAL VERTICAL REINFORCING SHALL BE #5 BARS AT 32" 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.
- 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.
- 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" DEPTHS FILLED, AND AGAIN RODDED OR VIBRATED. THIRD 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.
- 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.
- 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.
- 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.
- COLD OR HOT WEATHER MASONRY CONSTRUCTION SHALL CONFORM TO THE ACI 530-99/ASCE 5-99/TMS 402-99 SECTION 1.0 AND ACI 305 AND 306, RESPECTIVELY.
- METAL LATH SHALL BE USED UNDER BOND BEAMS TO CONFINE GROUT FROM HOLLOW CORES.
- PROCEDURES OF NCHM-TEK #3-3A SHALL BE FOLLOWED FOR ALL REINFORCED MASONRY CONCRETE CONSTRUCTION.
- LAY ALL CONCRETE MASONRY UNITS IN RUNNING BOND, UNLESS NOTED OTHERWISE.
- INSPECTION OF MASONRY CONSTRUCTION SHALL BE PERFORMED AS REQUIRED BY IBC 2003 CHAPTER 17. SEE SHEET SN2.

- ALL STEEL STUDS, JOISTS, AND ACCESSORIES SHALL BE MADE OF THE TYPE, SIZE, GAGE, AND SPACING SHOWN ON THE DRAWINGS. ALL LIGHT GAGE STEEL FRAMING SHALL BE MANUFACTURED BY MARINOWARE OR APPROVED EQUAL.
- ALL STRUCTURAL MEMBERS SHALL BE DESIGNED IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", 1996 EDITION.
- ALL STUDS, JOISTS AND ACCESSORIES SHALL BE MANUFACTURED PER ASTM C955. ALL STUDS, JOISTS AND ACCESSORIES SHALL BE GALVANIZED TO HAVE A MINIMUM G-60 COATING IN CONFORMANCE WITH ASTM C955. STUDS, JOISTS AND ACCESSORIES, 16 GAGE OR HEAVIER SHALL BE FORMED FROM SHEET STEEL CONFORMING TO ASTM A653, Fy=50 KSI. THOSE 18 GAGE OR LIGHTER SHALL BE FORMED OF SHEET STEEL CONFORMING TO ASTM A653, Fy=33 KSI.
- REFER TO MARINOWARE TECHNICAL PUBLICATION "STUD-RITE LIGHTWEIGHT STEEL FRAMING SYSTEM" FOR TECHNICAL INFORMATION, RECOMMENDATIONS, DETAILS, SUGGESTED SPECIFICATIONS, ERECTION AND BRACING.
- ALL LIGHT GAGE STUD AND TRACK COMPONENTS SHALL BE CLEARLY IDENTIFIED WITH STANDARD INDUSTRY MARKINGS OR COLOR CODING.
- CURTAIN WALL STUDS SHALL BE FASTENED TO THE BOTTOM TRACK WITH A NO. 6 SCREW TO EACH FLANGE. AT TOP, USE 2 INCH DEFLECTION TRACK WITH A 3/4" GAP BETWEEN TRACK AND TOP OF STUD. FASTEN STUD TO TRACK WITH A NO. 6 SCREW ON ONE SIDE ONLY. INSTALL ONE ROW OF HORIZONTAL BRIDGING WITHIN TWO FEET OF THE TOP OF THE WALL.
- CURTAIN WALL STUDS SHALL BE 6" WIDE AND HAVE A 1-5/8" FLANGE WITH A RETURN. CURTAIN WALL STUDS SHALL BE MIN. 18 GAGE AND SPACED TO A MAXIMUM OF 24 INCHES ON CENTER. BOTTOM TRACK SHALL BE MIN. 18 GAGE AND DEFLECTION TRACK SHALL BE MIN. 16 GAGE.
- STAMPED LIGHT GAGE SHOP DRAWINGS AND CALCULATIONS SHALL BE PROVIDED BY LIGHT GAGE CONTRACTOR. CONTRACTOR'S ENGINEER SHALL BE LICENSED IN THE STATE OF MAINE AND CARRY PROFESSIONAL LIABILITY INSURANCE WITH A MIN. PER INCIDENT AND ANNUAL COVERAGE OF \$500,000. SHOP DRAWINGS SHALL DETAIL WINDOW AND DOOR HEADERS, SILL AND POSTS, AND CONNECTIONS. SHOP DRAWINGS SHALL INCLUDE A KEY PLAN, FRAMING ELEVATIONS, AND SECTIONS.
- DEFLECTION CRITERIA SHALL BE L/600 BEHIND BRICK VENEER AREAS AND L/240 ELSEWHERE.
- ALL STUD WALLS SHALL HAVE HORIZONTAL BRIDGING AND CROSS BRACING INSTALLED AS SHOWN ON DRAWINGS. ALL BRACING SHALL BE INSTALLED BEFORE APPLICATION OF LOADS.
- BEARING WALL STUDS SHALL BE INSTALLED SEATED SQUARELY AGAINST THE WEB (WITHIN 1/16") OF THE TOP AND BOTTOM TRACK TO ASSURE TRANSFER OF AXIAL LOAD. STUDS SHALL BE PLUMBED, ALIGNED, AND SECURED TO THE CONTINUOUS RUNNER TRACKS AT EACH END AND EACH SIDE BEFORE THE INSTALLATION OF COMPONENTS WHICH INDUCE AXIAL LOAD.
- CONTRACTOR'S LIGHT GAGE ENGINEER SHALL BE REQUIRED TO PERFORM SITE VISITS AS NECESSARY TO INSURE THAT LIGHT GAGE WORK CONFORMS WITH THEIR DESIGN.

WOOD FRAMING

- ALL ROUGH FRAMING SHALL BE SPRUCE-PINE-FIR, NO. 2 OR BETTER, UNLESS OTHERWISE NOTED OR SHOWN ON THE DRAWINGS.
- ALL TWO (2) INCH NOMINAL LUMBER TO BE SEASONED TO 19% MAXIMUM MOISTURE CONTENT.
- ALL LUMBER AND PLYWOOD SHALL BE GRADE-STAMPED BY THE APPROPRIATE MANUFACTURER'S ASSOCIATION FOR THE APPROPRIATE USE.
- ALL WOOD IN CONTACT WITH CONCRETE, MASONRY, OR EARTH SHALL BE PRESSURE TREATED SOUTHERN PINE.
- ALL WOOD FRAMING SHALL BE BUILT PLUMB, LEVEL, SQUARE, AND TRUE WITH ADEQUATE BRACING AND CONNECTION HARDWARE TO ENSURE A RIGID STRUCTURE.
- ROUGH CONNECTIONS SHALL BE ACCURATELY CUT AND TIGHTLY FITTED AS NECESSITATED BY THE CONDITIONS ENCOUNTERED TO PROVIDE FULL BEARING WITHOUT USE OF SHIMS.
- ALL WOOD FRAMED FLOORS SHALL BE SHEATHED WITH 3/4" TONGUE AND GROOVE ADVANTECH APA RATED EXPOSURE I PLYWOOD, GLUED AND NAILED, UNLESS OTHERWISE SHOWN OR NOTED.
- ALL SHEATHING SHALL BE LAID WITH LONG DIMENSIONS PERPENDICULAR TO SUPPORTS. STAGGER ALL JOINTS. PROVIDE BLOCKING AS REQUIRED TO PROVIDE FASTENING AT THE FULL PERIMETER OF ALL PANELS OF WALL SHEATHING. ADJACENT SHEATHING PANELS SHALL BE NAILED TO A COMMON STUD, BLOCKING, OR PLATE.
- ALL SHEATHING SHALL BE FASTENED AT ALL PANEL EDGES AND IN FIELD OF PANEL AS NOTED ON SPECIFIC SHEAR WALLS AND DIAPHRAGMS. NOTE THAT ALL PANEL EDGES SHALL BE BLOCKED. SEE SHEAR WALL SCHEDULE.
- 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 THREE (3) FEET WIDE TO SIX (6) FEET WIDE SHALL BE THREE 2X10'S WITH TWO LAYERS OF 1/2" PLYWOOD, U.N.O.
- ALL HEADERS OVER 5'-9" IN LENGTH SHALL BEAR ON DOUBLE STUD POSTS AS A MINIMUM, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 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.
B. 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.
C. BOLT HOLES SHALL BE A MINIMUM OF 1/32" AND A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER (PER THE 1947 NDS, SECTION 8.1.2.1).
D. INSTALL ALL SPECIFIED FASTENERS BEFORE LOADING THE CONNECTION.
E. 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.
F. JOIST SHALL BEAR COMPLETELY ON THE CONNECTOR SEAT AND THE GAP BETWEEN THE JOIST AND THE HEADER SHALL NOT EXCEED 1/8".
- BEAMS NOTED AS "LVL" SHALL BE "MICROLLAM" AS MANUFACTURED BY TRUSJOIST (E=1,900,000 PSI, Fb=2600 PSI). MICROLLAM PRODUCTS SHALL BE PROPERLY STORED AND PROTECTED FROM WATER DAMAGE DURING CONSTRUCTION.
- BEAMS NOTED AS "PSL" SHALL BE "PARALLAM" AS MANUFACTURED BY TRUSJOIST (E=2,000,000 PSI, Fb=2900 PSI). PARALLAM PRODUCTS SHALL BE PROPERLY STORED AND PROTECTED FROM WATER DAMAGE DURING CONSTRUCTION.
- COLUMNS NOTED AS "PSL" SHALL BE "PARALLAM" AS MANUFACTURED BY TRUSJOIST (E=1,800,000 PSI, Fc=2500 PSI). PARALLAM PRODUCTS SHALL BE PROPERLY STORED AND PROTECTED FROM WATER DAMAGE DURING CONSTRUCTION.
- UNLESS NOTED OTHERWISE, MINIMUM FASTENING OF WOOD MEMBERS SHALL CONFORM TO TABLE 2304.9.1 OF IBC 2003.
- ALL PLYWOOD AND OSB SHEATHING SHALL BE APA RATED AND SHALL BE ADEQUATELY SPACED AT JOINTS (1/8" TYP) AS RECOMMENDED BY THE APA FOR EXPANSION.
- ALL POSTS SHALL CONTINUE TO THE FOUNDATION, UNLESS OTHERWISE INDICATED. INSTALL SOLID BLOCKING WITHIN FLOOR PLENUM TO PROVIDE CONTINUITY OF LOAD PATH.

PRESSURE TREATED LUMBER

- PRESSURE TREATED LUMBER SHALL BE KOLMANIZED L3 OUTDOOR WOOD TREATED WITH A NON-METALLIC CARBON BASED SOLUTION SUITABLE TO EXTERIOR EXPOSED SERVICE.
- USE PT LUMBER FOR ALL EXTERIOR FRAMING AND FOR SILL PLATES ON FOUNDATION WALLS AND INTERIOR SLABS ON GRADE.
- USE STANDARD ANCHOR BOLTS TO FASTEN PT PLATES TO FOUNDATION WALLS. USE POWER ACTUATED FASTENERS IN ALL PLATE TO SLAB CONNECTIONS.
- USE G90 OR G185 GALVANIZED CONNECTORS (SIMPSON OR EQUAL) AND HOT DIPPED GALVANIZED NAILS FOR ALL PT CONNECTIONS.
- KOLMANIZED PT PRODUCTS MAY NOT BE SUBSTITUTED WITH OTHER TYPES OF PT PRODUCTS.
- AWPA USE CATEGORY FOR SERVICE CONDITIONS IS UC3B. MINIMUM TREATMENT RETENTION SHALL BE 0.018 PCF.



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NOTE SHEET
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Scale: N/A
Commission No: 06-008
Date: July 15, 2008

REVISIONS:

DRG. NO.
S.N.O.

