

GENERAL NOTES

- THE FOLLOWING NOTES ARE INTENDED TO BE USED AS OUTLINED SPECIFICATIONS FOR THIS PROJECT. THE REFERENCED STANDARDS ARE CONSIDERED TO BE PART OF THE WORK.
- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL AND SITE DRAWINGS. THESE PUBLICATIONS ARE AVAILABLE THROUGH THE AMERICAN CONCRETE INSTITUTE (248) 848-3800.
- ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE ONLY AFTER THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES DURING ERECTION. THIS DOES NOT INCLUDE THE ADDITION OF NECESSARY SHORING, SHIELDING, TEMPORARY BRACING, OR OTHER MEASURES TO MAINTAIN THE STABILITY OF THE STRUCTURE AFTER COMPLETION OF THE PROJECT.
- SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS AS DETERMINED BY THE STRUCTURAL ENGINEER.
- ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED (OSHA).
- PROVIDE AND INSTALL NECESSARY MATERIAL TO CONNECT ELEVATOR SUPPORT BEAMS AND GUIDE RAILS LOCATION AND SIZE OF MEMBERS AND ANY INSERTS REQUIRED SHALL BE DETERMINED BY THE ELEVATOR MANUFACTURER.

DESIGN LOADS

- BUILDING CODE: MAINE UNIFORM BUILDING AND ENERGY CODE, INTERNATIONAL RESIDENTIAL CODE, 2009 EDITION ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
- DESIGN FLOOR LIVE LOADS:
UNINHABITABLE ATTICS W/ LIGHT STORAGE 20 PSF
SLEEPING ROOMS 30 PSF
ALL OTHER AREAS 40 PSF
- DESIGN ROOF SNOW LOAD:
GROUND SNOW LOAD (Pg): 60 PSF
SNOW EXPOSURE FACTOR (Ce): 1.0
WIND EXPOSURE FACTOR (Ex): 1.0
SNOW LOAD REDUCTION FACTOR (Cd): 1.1
FLAT ROOF SNOW LOAD (Ps): 46 PSF + DRIFT
- DESIGN WIND LOAD:
BASIC WIND SPEED: 100 MPH
WIND LOAD IMPORTANCE FACTOR (Iw): 1.0
INTERNAL PRESSURE COEFFICIENT: ±0.18
COMPONENTS & CLADDING LOADS PER ASCE 7-05

FOUNDATION NOTES (SOIL SUPPORTED)

- FOUNDATION DESIGN IS BASED ON SHALLOW SPREAD FOOTINGS BEARING ON SUITABLE UNDISTURBED NATIVE SOILS AND/OR NEW COMPACTED STRUCTURAL FILL EXTENDING TO UNDISTURBED NATIVE SOIL.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY EXISTING SOIL CONDITIONS AND TO BRING ANY DISCREPANCIES TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO COMMENCING PLACEMENT OF FOUNDATIONS.
- PRESUMPTIVE BEARING CAPACITY OF 3000 PSF.
- EXTEND BOTTOM OF EXTERIOR FOOTINGS AT LEAST 4'-6" FEET BELOW THE FINAL EXTERIOR GRADE FOR PROTECTION AGAINST FROST.
- ALL PAVEMENT, EXISTING FOUNDATIONS AND UNCONTROLLED GRANULAR FILL SHALL BE REMOVED FROM THE AREA OF THE PLANNED FOUNDATION TO AT LEAST 4 FEET BEYOND THE FOOTING LIMIT.
- COMPACTED STRUCTURAL FILL SHALL BE USED TO BACKFILL TO THE DESIGN FOOTING SUBGRADE AND BENEATH ALL SLABS ON GRADE. STRUCTURAL FILL SHALL BE A CLEAN SAND-GRAVEL MIXTURE MEETING THE FOLLOWING GRADATION:
SCREEN OR SIEVE SIZE PERCENT PASSING
3 INCH 90-100
1/4 INCH 25-90
NO. 40 0-30
NO. 200 0-5
- STRUCTURAL FILL SHALL BE PLACED IN LAYERED LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS AND SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D1557, MODIFIED PROCTOR TEST. COMPACT ADJACENT TO FOUNDATION WALLS SUPPORTING UNBALANCED FILL (RETAINING WALLS) TO 94 TO 96 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D1557, HAND OPERATED EQUIPMENT SHALL BE USED FOR COMPACTION WITHIN 8 FEET OF NEW FOUNDATION WALL.
- NO BACKFILL SHALL BE PLACED AGAINST FOUNDATION WALLS RETAINING EARTH, UNLESS WALLS ARE ADEQUATELY BRACED TO PREVENT MOVEMENT OR STRUCTURAL DAMAGE.
- PROVIDE PVC DRAINAGE AROUND THE PERIMETER OF THE STRUCTURE. LOCATE AT THE BOTTOM OF EXTERIOR FOOTINGS. PROVIDE 1/2" DIA. PERFORATED PVC DRAIN TO PROPERLY DESIGNED OUTLET. REFER TO SITE DRAWINGS FOR ADDITIONAL INFORMATION.
- SOILS EXPOSED AT THE BASE OF ALL SATISFACTORY FOUNDATION EXCAVATIONS SHALL BE PROTECTED AGAINST FURTHER DETRIMENTAL CHANGE IN CONDITION, SUCH AS FLOODING, FROSTING, OR OVERWATERING. SUCH PROTECTION SHALL BE ADEQUATELY PROTECTED FROM RAINFALL OR FREEZING CONDITIONS. GROUNDWATER SHALL BE ANTICIPATED FOR EXCAVATIONS AND APPROPRIATE Dewatering Measures shall be employed.
- SCOPE FOOTING EXCAVATIONS AS REQUIRED FOR STABILITY AND SAFETY IN ACCORDANCE WITH OSHA GUIDELINES. BRACED EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MAINE.

REBAR LAP SPLICE TABLE		
BAR SIZE	LAP LENGTH	LAP LENGTH
#3	3,000 PSI	5,000 PSI
#4	36"	24"
#5	36"	42"

CONCRETE NOTES

- CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318 LATEST)", AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301-LATEST)". THESE PUBLICATIONS ARE AVAILABLE THROUGH THE AMERICAN CONCRETE INSTITUTE (248) 848-3800.
- CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ACI 318-LATEST.
- CONCRETE MIX DESIGN:
FOOTINGS AND FOUNDATION WALLS:
A. STRENGTH: 3000 PSI @ 28 DAYS
B. W/C RATIO: 0.55 MAX
C. ENTRAINED AIR: 5% TO 7%
D. SLUMP: 4" MAX
E. SETTING TIME: 120 MIN
EXTERIOR SLABS ON GRADE:
A. STRENGTH: 5000 PSI @ 28 DAYS
B. W/C RATIO: 0.55 MAX
C. ENTRAINED AIR: 5% TO 7%
D. SLUMP: 4" MAX
E. SETTING TIME: 120 MIN
INTERIOR SLABS ON GRADE:
A. STRENGTH: 3000 PSI @ 28 DAYS
B. W/C RATIO: 0.55 MAX
C. ENTRAINED AIR: 5% TO 7%
D. SLUMP: 4" MAX
E. SETTING TIME: 120 MIN
NOTE:
A. ADD AIR ENTRAINING ADMIXTURE AT MANUFACTURER'S PRESCRIBED RATE TO RESULT IN CONCRETE AT POINT OF PLACEMENT HAVING THE ABOVE NOTED AIR CONTENT.
B. ADDITIONAL WATER BEHINDING MAXIMUM SLUMP AFTER ADDITION OF ADMIXTURE SHALL BE 6 INCHES AND 8 INCHES RESPECTIVELY.

- ADJUSTMENT TO CONCRETE MIXES: MIX ADJUSTMENTS MAY BE REQUESTED BY THE CONTRACTOR WHEN CHARACTERISTICS OF THE MATERIALS, JOB CONDITIONS, WEATHER OR OTHER CIRCUMSTANCES WARRANT. SET IN ADDITIONAL DATA SHEET. THE OTHER AS ACCEPTED DATA MUST BE SUBMITTED AND ACCEPTED BY THE ARCHITECT BEFORE INCORPORATING INTO THE WORK.
- NOTE:
A. WATER MAY BE ADDED AT THE PROJECT ONLY IF THE MAXIMUM SPECIFIED WATER-CEMENT RATIO AND SLUMP ARE NOT EXCEEDED. CONTRACTOR SHALL HAVE BATCH TICKET INDICATING WATER AND CEMENT MIXED IN THE PLANT, AND SHALL RECORD THE WATER ADDED AS EVIDENCE THAT THE WATER-CEMENT RATIO HAS NOT BEEN EXCEEDED.
B. ADDITIONAL DRESS SUPER PLASTICIZER SHOULD BE USED WHEN DELAYS AND ADDITIONAL DISCHARGES ARE PERMITTED PER ACI 212.3R RECOMMENDATIONS.
- CONCRETE MIXING:
A. JOB-SITE MIXING OF CONCRETE WILL NOT BE PERMITTED.
B. READY-MIX CONCRETE MUST BE MIXED WITH THE REQUIRED QUANTITIES OF ASTM C94, AND AS SPECIFIED HEREIN. PROVIDE BATCH TICKET FOR EACH BATCH, DISCHARGED AND USED IN WORK, INDICATING PROJECT NAME, MIX TYPE, MIX TIME, BATCH QUANTITY, AND PROPORTIONS OF INGREDIENTS.
- CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
- PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH EXTERIOR CONCRETE OR SLABS CAST ON GRADE. ADJACENT STEELS SHALL BE SPACED A MINIMUM OF THREE DIAMETERS APART. NO PENETRATIONS SHALL BE MADE THROUGH FOOTINGS WITHOUT WRITTEN PERMISSION FROM ENGINEER.
- REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS AND SHALL BE DETAIL, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315, LATEST EDITION.
- FIBER REINFORCEMENT SHALL BE TYPE II SYNTHETIC URGON HOMOPOLYMER POLYPROPYLENE FIBERS CONFORMING TO ASTM C1118.
- COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING STEEL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. PROVIDE AND SCHEDULE ON THE SHOP DRAWINGS ALL NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS AT 4'-0" O.C. WITH CONTINUOUS # 5 SUPPORT BARS; SLAB BOLSTERS, CONTINUOUS AND 3'-6" O.C.; BEAM BOLSTERS AT 5'-0" O.C.
- MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
A. SURFACES CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH, 3.0"
B. FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER 4.0"
C. SURFACES NOT IN CONTACT WITH EARTH OR EXPOSED TO WEATHER WALLS, SLABS, JOISTS #11 AND SMALLER, 1.0"
- REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND AT INTERSECTIONS. PROVIDE LAPPED BARS AT NECESSARY SPACES OR HOOKED BARS AT DISCONTINUOUS ENDS. SEE SCHEDULE THIS DRAWING FOR REQUIRED REBAR LAP SPLICE LENGTHS.
- WELDING OF REINFORCEMENT IS NOT PERMITTED.
- FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS, PROVIDE SUPPLEMENTAL REINFORCING AROUND OPENING AS SHOWN ON THE CONTRACT DOCUMENTS TYPICAL DETAILS.
- SLABS CAST ON GRADE: SEE TYPICAL DETAILS FOR SPECIFIC UNDERSLAB PREPARATION REQUIREMENTS.
- CONTRACTOR/CONTROL JOINTS SHOWN ON DRAWINGS ARE MANDATORY. OMISSIONS, ADDITIONS, OR CHANGES SHALL NOT BE MADE EXCEPT WITH THE SIGNATURE OF A WRITTEN AUTHORITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPOSED JOINT LOCATIONS FOR APPROVAL BY THE STRUCTURAL ENGINEER.
- WHERE CONTROL JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATIONS(S) OF CONTRACTION AND CONTROL JOINTS AND CONCRETE PLACING SEQUENCES SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.
- SPACING OF CONTRACTION OR CONTRACTION JOINTS, UNLESS NOTED OTHERWISE SHALL BE AS FOLLOWS:
A. FOOTINGS AND WALLS MAX LENGTH 40'-0" NOR 15'-0"
B. SLABS ON GRADE FROM ANY CORNER** MAX LENGTH 30'-0" PLACED IN ALTERNATE PANELS

STRUCTURAL STEEL NOTES

- STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC "SPECIFICATION FOR THE DESIGN FABRICATION, AND ERECTION OF STRUCTURAL STEEL" 13TH EDITION, AND THE "CODE OF STANDARD PRACTICE" LATEST EDITION.
- STRUCTURAL STEEL: STEEL PLATES, SHAPES, AND BARS SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE (UNLESS OTHERWISE NOTED). STRUCTURAL STEEL SHAPES DESIGNATED ON THE DRAWINGS FOR WIDE-FLANGE SECTIONS, ASTM A992 (ASTM A572 GRADE 50 WITH SPECIAL REQUIREMENTS PER AISC TECHNICAL BULLETIN #3 DATED MARCH, 1997).
- STRUCTURAL TUBING: CONFORM TO ASTM A500 GRADE B, 46 KSI.
- FIELD CONNECTIONS SHALL BE BOLTED USING 3/4" DIAMETER ASTM A325U HIGH STRENGTH BOLTS (UNF) EXCEPT WHERE SLIP CRITICAL CONNECTIONS ARE REQUIRED AS NOTED BY A323 (S9) ON THE DRAWINGS.
- WHERE WELDING IS INDICATED, ALL WELDING SHALL CONFORM TO AWS D1.1-LATEST EDITION. ELECTRODES SHALL CONFORM TO AWS A5.1 E70XX SERIES WITH PROPER ROD TO PRODUCE OPTIMUM WELD (LOW HYDROGEN).
- DESIGN AND DETAIL ALL CONNECTIONS ACCORDING TO AISC STANDARD CONNECTION TABLES. DESIGN STANDARD BEAM CONNECTIONS FOR THE MAXIMUM LOAD CAPACITY OF THE MEMBER. BRACING CONNECTIONS HAVE BEEN DETAILED ON THE DRAWINGS.
- ALL STEEL SHALL BE FABRICATED AND SHIPPED AS BARE UN-PAINTED STEEL, EXCEPT STEEL PERMANENTLY EXPOSED TO WEATHER. ALL STEEL EXPOSED TO WEATHER SHALL BE PAINTED WITH THE FABRICATOR'S ROYAL INHIBITIVE PRIMER, TENECC-10-99 OR EQUAL AND INDICATED ON THE DRAWINGS.
- SEE CONCRETE NOTES AND DRAWINGS FOR ANCHOR BOLT INFORMATION, TYP.
- COAT ALL COLUMNS, BASEPLATES, AND BRACE ELEMENTS EXPOSED IN CONCRETE OR BELOW GRADE WITH BRIMBROUS MASTIC ON THERMO H.B. THERMOCOAT (48-485) COAT TAR PAINT.
- PROVIDE 3/8" MINIMUM STIFFENER PLATES EACH SIDE OF BEAM WEB AT BEAMS FRAMING OVER COLUMNS AND AT COLUMNS OVER BEAMS.
- PROVIDE 1/4" THICK LEVELING PLATE AND 3/4"x3" OF NON-SHRINK GROUT UNDER ALL COLUMN BASE PLATES UNLESS OTHERWISE NOTED. LEVELING PLATES SHALL BE SET AND GROUTED PRIOR TO ERECTING COLUMNS.
- PROVIDE ALL ANGLES, PLATES, ANCHORS, BOLTS, ETC., SHOWN ON ARCHITECTURAL DRAWINGS.

TIMBER NOTES

- ALL TIMBER FRAMING SHALL BE IN ACCORDANCE WITH THE AIA/ICC TIMBER CONSTRUCTION MANUAL-LATEST EDITION AND THE AIA & IFA NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS) 2001 EDITION.
- INDIVIDUAL TIMBER FRAMING MEMBERS SHALL BE VISUALLY GRADED. MINIMUM GRADE NOT/NO2 SPRUCE-PINE-FIR KILN DRIED TO 19% MAXIMUM MOISTURE CONTENT UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- ENGINEERED WOOD PRODUCTS SHALL BE AS SPECIFIED ON THE DRAWINGS. REFER TO MANUFACTURER'S LITERATURE FOR PROPER HANDLING AND INSTALLATION GUIDELINES. MANUFACTURER AND PRODUCT SHALL BE:
- SUBSTITUTIONS OF ENGINEERED WOOD MATERIALS OTHER THAN THOSE SPECIFIED WILL BE PERMITTED ONLY IF THE SUBSTITUTIONS MEET OR EXCEED ALL PROPERTIES OF SPECIFIED PRODUCT, INCLUDING ENGINEERING AND DURABILITY CHARACTERISTICS. SUBSTITUTIONS ARE SUBJECT TO APPROVAL BY THE ARCHITECT AND ENGINEER.
- PRESSURE TREATED LUMBER SHALL BE USED FOR SOIL MEMBER EXTERIOR EXPOSURE, OR WHERE EXPOSURE TO WEATHER IS ANTICIPATED. LUMBER SHALL BE SOIL-BORNE TREATED TO A MINIMUM OF 0.4% OF IN ACCORDANCE WITH ANFA 6-18. ACZA IS STRICTLY PROHIBITED.
- ALL ROOF AND WALL SHEATHING SHALL BE APA PERFORMANCE-RATED. PROVIDE 5/8" THICK CD-X ROOF SHEATHING AND 5/8" THICK WALL SHEATHING (UNDO). SEE SHEKMAN SCHEDULE FOR NAILING REQUIREMENTS EXCLUSIVE TO SHEKWALLS. SHEATHING SHALL BE NAILED TO THE FRAMING AS FOLLOWS, UNLESS OTHERWISE NOTED:
TYPICAL PANEL FASTENING (UNDO)
A. ROOF: 8d NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS.
B. WALLS: 8d NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS.
- FLOOR SHEATHING SHALL BE 3/4" APA RATED TONGUE AND GROOVE PANELS. GUE AND WALL TO FLOOR FRAMING WITH 8d RING SHANK NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS.
- ALL BUILT-UP BEAMS AND COLUMNS SHALL BE NAILED AS FOLLOWS (FASTENING IN EACH PLY):
UNUSUALLY LOADED BEAMS:
BEAM DEPTH >= 16" 2-3 ROWS OF 16d NAILS AT 12" O.C. STAGGERED
BEAM DEPTH >= 16" 2-3 ROWS OF 16d NAILS AT 12" O.C. STAGGERED
NOTE: SIDE LOADED BEAMS REQUIRE ADDITIONAL FASTENING. SEE DETAILS.
COLUMNS:
2'-10" NAILS AT 6" O.C.
- FASTENING NOT SPECIFIED SHALL CONFORM WITH IRC (2003) TABLE 2304.9.1. NAIL FASTENERS SHALL MEET THE REQUIREMENTS OF ASTM F1667 UNLESS NOTED OTHERWISE. WALLS REFERENCED ON DRAWINGS ARE TO BE COMMON WALLS WITH DIMENSIONS AS FOLLOWS:
6x: 2" LONG BY 0.113" DIAMETER SHANK WITH 0.286" DIAMETER HEAD
8x: 2 1/2" LONG BY 0.13" DIAMETER SHANK WITH 0.28" DIAMETER HEAD
10x: 3" LONG BY 0.148" DIAMETER SHANK WITH 0.312" DIAMETER HEAD
12x: 3 1/2" LONG BY 0.148" DIAMETER SHANK WITH 0.344" DIAMETER HEAD
16x: 3 1/2" LONG BY 0.162" DIAMETER SHANK WITH 0.406" DIAMETER HEAD
20x: 4" LONG BY 0.192" DIAMETER SHANK WITH 0.406" DIAMETER HEAD
30x: 4 1/2" LONG BY 0.207" DIAMETER SHANK WITH 0.438" DIAMETER HEAD
- ALL TIMBER CONNECTION HARDWARE (JOIST HANGERS, POST BASES, SHEARWALL HOLDINGS, ETC) SHALL BE AS INDICATED ON THE DRAWINGS AND MANUFACTURED BY SHERMAN STRONG-TIE. ALL CONNECTION HARDWARE SHALL BE HOT-DIPPED GALVANIZED G-90 (UNDO). CONNECTIONS (ZMAX) USE FASTENERS AND ANCHORS OF STEEL MATERIAL GALVANIZED STEEL TO MANUFACTURER'S LITERATURE FOR PROPER HANDLING AND INSTALLATION GUIDELINES.
- FASTENERS USED IN CONTACT WITH PT LUMBER SHALL BE HOT DIPPED GALVANIZED (ASTM A153), STAINLESS STEEL, OR OTHER FINISH AS APPROVED BY THE ENGINEER.

