



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, MECHANICAL, ELECTRICAL & PLUMBING. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
- ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE ONLY AFTER THE STRUCTURAL WORK CONTAINED IN THE STRUCTURAL DRAWINGS IS COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS AS DETERMINED BY THE ENGINEER.
- ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

SUBMITTALS

- THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR ALL PARTS OF THE WORK AND CONSTRUCTION METHODS AND SEQUENCING WHERE APPLICABLE. NO PERFORMANCE OF THE WORK INCLUDING, BUT NOT LIMITED TO, FABRICATION OR ERECTION OF NEW STRUCTURAL ELEMENTS, SHALL COMMENCE WITHOUT REVIEW OF THE SHOP DRAWINGS BY THE ARCHITECT AND ENGINEER. SUBMIT ONE (1) PDF COPY. CONTRACTOR SHALL ALLOW 10 WORKING DAYS FOR REVIEW.
- REQUIRED SUBMITTALS SHALL INCLUDE:

- CONCRETE MIX DESIGN
- STRUCTURAL STEEL FRAMING FABRICATION DRAWINGS

FOUNDATION NOTES (SOIL SUPPORTED)

- FOUNDATION/SLAB SUB BASE DESIGN IS BASED ON BEARING ON 12" MIN OF COMPACTED STRUCTURAL FILL OVER COMPACTED EXIST SUB BASE.
- IT IS THE CONTACTOR'S SOLE RESPONSIBILITY TO VERIFY EXISTING SOIL CONDITIONS AND TO BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO COMMENCING PLACEMENT OF FOUNDATIONS.
- PRESUMPTIVE BEARING CAPACITY OF 1500 PSF.
- COMPACTED STRUCTURAL FILL SHALL BE USED TO BACKFILL BENEATH ALL SLABS ON GRADE. STRUCTURAL FILL SHALL BE A CLEAN SAND-GRAVEL MIXTURE MEETING THE FOLLOWING GRADATION:

SCREEN OR SIEVE SIZE	PERCENT PASSING
6 INCH	100
3 INCH	90-100
1/4 INCH	25-90
NO. 40	0-30
NO. 200	0-5

- STRUCTURAL FILL SHALL BE PLACED IN UNIFORM 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. HAND OPERATED EQUIPMENT SHALL BE USED FOR COMPACTION WITHIN 8 FEET OF NEW FOUNDATION WALL.

DESIGN LOADS

- BUILDING CODE:**
MAINE UNIFORM BUILDING AND ENERGY CODE
INTERNATIONAL BUILDING CODE, 2009 EDITION
INTERNATIONAL EXISTING BUILDING CODE, 2009 EDITION
ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- DESIGN FLOOR LIVE LOADS:**
MEZZANINE: 100 PSF
STAIRS: 100 PSF
- DESIGN WIND LOAD:**
ADDITIONS ARE ENTIRELY WITHIN THE INTERIOR SPACE. DESIGN FOR WIND LOADING IS NOT APPLICABLE.
- DESIGN SEISMIC LOADS:**
EQUIVALENT LATERAL FORCE PROCEDURE
SEISMIC OCCUPANCY CATEGORY: I
SEISMIC IMPORTANCE FACTOR (I_e): 1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS:
S_s: 0.314
S₁: 0.077
SEISMIC SITE CLASS: D
SPECTRAL RESPONSE COEFFICIENTS:
S_{ds}: 0.324
S_{d1}: 0.123
SEISMIC DESIGN CATEGORY: B
BASIC STRUCTURAL SYSTEM: BEARING WALL SYSTEM
BASIC SEISMIC FORCE RESISTING SYSTEM:
LIGHT FRAMED WALLS SHEATHED WITH WOOD PANELS.
RESPONSE MODIFICATION FACTOR (R): 6 1/2
SEISMIC RESPONSE COEFFICIENT (C_s): .07
NOTE: NEW MEZZANINE STRUCTURE INCORPORATES PLYWOOD SHEATHED SHEARWALLS FOR LATERAL RESISTANCE. IMPOSED LOADS FROM NEW MEZZANINE STRUCTURE ONTO THE EXISTING BUILDING ARE BELOW THE INTERNATIONAL EXISTING BUILDING CODE CRITERIA TO REQUIRE THAT THE EXISTING STRUCTURE BE UPGRADED.

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.
- GENERAL CONTRACTOR SHALL HAVE AVAILABLE ON SITE AT ALL TIMES A COPY OF ACI "FIELD REFERENCE MANUAL SP-15 (LATEST)". THIS PUBLICATION IS 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:
A. STRENGTH: 3000 PSI @ 28 DAYS
B. AGGREGATE: 3/4"
C. W/C RATIO: 0.55 MAX
D. ENTRAINED AIR: 5% TO 7%
E. SLUMP: 4" MAX
INTERIOR SLABS ON GRADE:
A. STRENGTH: 3000 PSI @ 28 DAYS
B. AGGREGATE: 3/4"
C. W/C RATIO: 0.55 MAX
D. ENTRAINED AIR ONLY (NO ENTRAINMENT)
E. SLUMP: 4" MAX

NOTE:
A. ADDITIONAL SLUMP MAY BE ACHIEVED BY THE ADDITION OF A MIDRANGE OR HIGH RANGE WATER REDUCING ADMIXTURE. 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, AT NO ADDITIONAL COST TO THE OWNER AS ACCEPTED BY THE ARCHITECT. LABORATORY TEST DATA FOR THE REVISED MIX DESIGN AND STRENGTH 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 DOSES OF SUPER PLASTICIZER SHOULD BE USED WHEN DELAYS OCCUR AND REQUIRED SLUMP HAS NOT BEEN MAINTAINED. A MAXIMUM OF TWO ADDITIONAL DOSAGES ARE PERMITTED PER ACI 212.3R RECOMMENDATIONS.

- CONCRETE MIXING:
A. JOB-SITE MIXING OF CONCRETE WILL NOT BE PERMITTED.
B. READY-MIX CONCRETE MUST COMPLY WITH THE REQUIREMENTS 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.
- REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315, LATEST EDITION.
- FIBER REINFORCEMENT SHALL BE TYPE II SYNTHETIC VIRGIN HOMOPOLYMER POLYPROPYLENE FIBERS CONFORMING TO ASTM C1116.
- 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 OF EXPOSED TO WEATHER #5 BARS, 5/8" DIAMETER WIRE, AND SMALLER, 1.5"
#6 THROUGH #11 BARS, 2.0"
C. SURFACES NOT IN CONTACT WITH EARTH OR EXPOSED TO WEATHER WALLS, SLABS, JOISTS #11 AND SMALLER, 1.0"

- WELDING OF REINFORCEMENT IS NOT PERMITTED.
- PROVIDE A MIN. 15 MIL. POLYOLEFIN GEOMEMBRANE TYPE VAPOR BARRIER UNDER INTERIOR SLABS CAST ON GRADE. SEE TYPICAL DETAILS FOR SPECIFIC UNDERSLAB PREPARATION REQUIREMENTS.
- CONTRACTION/CONTROL JOINTS SHOWN ON DRAWINGS ARE MANDATORY. OMISSIONS, ADDITIONS, OR CHANGES SHALL NOT BE MADE EXCEPT WITH THE SUBMITTAL OF A WRITTEN REQUEST TOGETHER WITH DRAWINGS OF 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 SEQUENCE SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.
- ANCHOR RODS SHALL BE 3/4" DIAMETER HEADED RODS CONFORMING TO ASTM F1554, GRADE 36 KSI WELDABLE STEEL, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- ALL GROUT BENEATH BASE PLATES & BEARING PLATES SHALL BE "5-STAR" 5000 PSI NON-SHRINK GROUT BY U.S. GROUT CORP., OR APPROVED EQUAL.

STRUCTURAL STEEL NOTES

- STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC "SPECIFICATION FOR THE DESIGN FABRICATIONS, 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 OTHER WISE (U.N.O.). 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 A325N HIGH STRENGTH BOLTS (U.N.O.).
- 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.
- ALL STEEL SHALL BE COATED W/ FIRE RETARDANT INTUMESCENT COATING. SEE ARCH FOR SPECIFICATION. TOUCH UP ALL COATING DAMAGE INCLUDING TOUCH UP AT ALL FIELD WELDS.
- SEE CONCRETE NOTES AND DRAWINGS FOR ANCHOR BOLT INFORMATION, TYP.
- COAT ALL COLUMNS & BASEPLATES ENCASED IN CONCRETE OR BELOW GRADE WITH BITUMINOUS MASTIC ON TNEDEC H.B. TNEDECOL (46-465) 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" ± 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.

COLD FORMED FRAMING NOTES:

- PRODUCTS AND INSTALLATION SHALL MEET THE REQUIREMENTS OF AISI SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS, 1996 EDITION & 1999 SUPPLEMENT, AWS SPECIFICATION FOR WELDING SHEET STEEL IN STRUCTURES, D1.3, ASTM 653 STANDARD SPECIFICATION FOR SHEET STEEL, ZINC (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANIZED) BY THE HOT DIP PROCESS AND ASTM C 955 STANDARD SPECIFICATION FOR LOAD BEARING (TRANSVERSE AND AXIAL STEEL STUDS, RUNNER (TRACK) AND BRACING AND BRIDGING, FOR SCREW APPLICATION OF GYPSUM BOARD AND METAL PLASTER BASES.
 - FRAMING MATERIALS SHALL BE AS INDICATED ON THE DRAWINGS AS MANUFACTURED BY DIETRICH INDUSTRIES, INC. 500 GRANT ST., SUITE 2226, PITTSBURGH, PA. 15219, (412) 281-2805. APPROVED EQUALS WILL BE CONSIDERED.
 - ALL GALVANIZED STUDS, JOISTS, TRACK, BRIDGING AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A G-60 COATING MEETING ASTM C 955.
 - WALL BRIDGING AND SOLID BLOCKING SHALL BE PROVIDED TO BRACE STUDS AGAINST ROTATION. INSTALL WALL BRIDGING AND BLOCKING PER DETAILS.
 - SCREWS SHALL BE SELF DRILLING, SELF TAPPING, ZINC COATED AND NOT LESS THAN #10.
 - SCREW PENETRATION THROUGH JOINED MATERIALS SHALL NOT BE LESS THAN THREE EXPOSED SCREW THREADS.
 - PROTECTIVE COATINGS ON SCREW FASTENERS SHALL BE COMPATIBLE WITH LIGHT GAUGE MATERIAL BEING JOINED.
 - CONTRACTOR SHALL REFER TO INSTALLATION INSTRUCTIONS PUBLISHED BY THE SCREW MANUFACTURER AND ASTM C954 FOR MINIMUM SPACING AND EDGE DISTANCE REQUIREMENTS AND TORQUE REQUIREMENTS.
 - CONTRACTOR SHALL REFER TO INSTRUCTIONS PUBLISHED BY THE P.A.F. MANUFACTURER FOR MINIMUM SPACING, EDGE DISTANCE AND CONCRETE EMBEDMENT AND ADDITIONAL INSTALLATION REQUIREMENTS.
 - CUTTING OF COLD FORMED STEEL FRAMING SHALL BE BY SAW, SHEAR OR PLASMA CUTTING EQUIPMENT. OXYACETYLENE TORCH CUTTING IS NOT PERMITTED.
 - TEMPORARY BRACING SHALL BE PROVIDED AND REMAIN IN PLACE UNTIL WORK IS PERMANENTLY STABILIZED.
 - TOP TRACKS SHALL BE CONTINUOUS, WHERE SPLICING OF TRACK IS NECESSARY BETWEEN STUD SPACING, A PIECE OF STUD SHALL BE PLACED BETWEEN ADJACENT TRACKS AND FASTENED BY WELDS OR SCREWS TO EACH SIDE OF THE TRACK, EACH END, U.N.O.
 - SPLICING OF FRAMING COMPONENTS, OTHER THAN TRACK, IS NOT PERMITTED.
 - A SEALANT SHALL BE APPLIED TO CONCRETE OR MASONRY SURFACES PRIOR TO ANCHORING TRACKS.
 - PROVIDE HORIZ STRAP BRIDGING FOR ALL WALLS. HORIZ BRIDGING SHALL BE CONT 20GA x 1 1/2" (MIN) WIDE STEEL STRAPS ON EA FACE OF STUD, LOCATED AT MAX 4'-0" ON CENTER FOR THE FULL HEIGHT OF THE WALL. PROVIDE TRACK SOLID BLOCKING AT 10'-0" ON CENTER ALONG THE WALL AT EA LINE OF BRIDGING. PROVIDE AN ADDITIONAL LINE OF BRIDGING A MAX OF 12" BELOW ALL SLIP TRACK CONNECTIONS. ALTERNATELY, BRIDGING CHANNELS AND BRIDGING CLIPS MAY BE USED.
- TESTING**
- OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY TO CONDUCT PERIODIC TESTS TO CONFIRM CONSTRUCTION IS IN CONFORMANCE WITH SPECIFIED PROCEDURES AND SPECIFICATIONS.
 - TESTING SHALL INCLUDE
STRUCTURAL FILL GRADATION AND COMPACTION
CONCRETE SLUMP, TEMPERATURE, AIR CONTENT AT POINT OF PLACEMENT
CONCRETE COMPRESSION TESTS
STRUCTURAL STEEL FIELD BOLTED CONNECTIONS
STRUCTURAL STEEL FIELD WELDED CONNECTION
INTUMESCENT FIRE RESISTANT COATING IN ACCORDANCE WITH AWCI-12B
 - TEST RESULTS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW WITHIN 72 HOURS OF COMPLETION OF EACH TEST.

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Mark	Date	INDICATED REVISION	Description
Δ	01/23/15	INDICATED REVISION	

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CONSTRUCTION SET

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Drawing Title

GENERAL NOTES

Scale: **NOT TO SCALE**

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