GENERAL NOTES

1. 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.
2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
3. 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.
4. 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.
5. SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS AS DETERMINED BY THE ENGINEER.
6. ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

DESIGN LOADS

1. BUILDING CODE: MAINE UNIFORM BUILDING AND ENERGY CODE, INTERNATIONAL RESIDENTIAL CODE, 2009 EDITION ASCE 7–05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
2. DESIGN FLOOR LIVE LOADS:

UNINHABITABLE ATTICS W/ LIGHT STORAGE	20 PSF
SLEEPING ROOMS	30 PSF
ALL OTHER AREAS	40 PSF

3. DESIGN ROOF SNOW LOAD:

GROUND SNOW LOAD (Pg):	60 PSF
SNOW EXPOSURE FACTOR (Ce):	1.0
SNOW LOAD IMPORTANCE FACTOR (Is):	1.0
SNOW LOAD THERMAL FACTOR (Ct):	1.1
FLAT ROOF SNOW LOAD (Pf):	46 PSF + DRIFT

4. DESIGN WIND LOAD:

BASIC WIND SPEED:	100 MPH
WIND LOAD IMPORTANCE FACTOR (Iw):	1.0
WIND EXPOSURE:	B
INTERNAL PRESSURE COEFFICIENT:	±0.18
COMPONENTS & CLADDING LOADS PER ASCE 7–05	

FOUNDATION NOTES (SOIL SUPPORTED)

1. 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.
2. 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.
3. PRESUMPTIVE BEARING CAPACITY OF 2,000 PSF.
4. ALL 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.
5. 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
6 INCH	100
3 INCH	90–100
1/4 INCH	25–90
NO. 40	0–30
NO. 200	0–5

6. 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. 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.
7. SOILS EXPOSED AT THE BASE OF ALL SATISFACTORY FOUNDATION EXCAVATIONS SHALL BE PROTECTED AGAINST ANY DETRIMENTAL CHANGE IN CONDITION, SUCH AS DISTURBANCE FROM RAIN OR FROST. SURFACE RUNOFF SHALL BE DRAINED AWAY FROM THE EXCAVATIONS SHALL BE ADEQUATELY PROTECTED FROM RAINFALL OR FREEZING CONDITIONS. GROUNDWATER SHALL BE ANTICIPATED FOR EXCAVATIONS AND APPROPRIATE DEWATERING MEASURES SHALL BE EMPLOYED.
8. SLOPE FOOTING EXCAVATIONS AS REQUIRED FOR STABILITY AND SAFETY IN ACCORDANCE WITH OSHA REQUIREMENTS. PROVIDE SHEETING OR SHORING IN ACCORDANCE WITH OSHA GUIDELINES. BRACED EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MAINE.

CONCRETE NOTES

1. 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.
2. GENERAL CONTRACTOR, CONSTRUCTION MANAGER AND/OR OWNER'S CLERK OF THE WORKS 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.
3. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ACI 318–LATEST.
4. CONCRETE MIX DESIGN:

   FOOTINGS, WALLS AND PIERS:
   - 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. ENTRAPPED AIR ONLY (NO ENTRAINMENT)
   - E. SLUMP: 4" MAX

   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 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.
5. 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.
6. 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.
7. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
8. PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH EXTERIOR CONCRETE OR SLABS CAST ON GRADE. ADJACENT SLEEVES SHALL BE SPACED A MINIMUM OF THREE DIAMETERS APART. NO PENETRATIONS SHALL BE MADE THROUGH FOOTINGS WITHOUT WRITTEN PERMISSION FROM ENGINEER.
9. 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.
10. 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"
11. REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND AT INTERSECTIONS. PROVIDE LAPPED BARS AT NECESSARY SPLICES OR HOOKED BARS AT DISCONTINUOUS ENDS. SEE SCHEDULE THIS DRAWING FOR REQUIRED REBAR LAP SPLICE LENGTHS.
12. WELDING OF REINFORCEMENT IS NOT PERMITTED.
13. CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTIONS JOINTS EXCEPT WHERE SHOWN OR NOTED. VERTICAL CONSTRUCTION JOINTS AND STOPS IN CONCRETE WORK SHALL BE MADE AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR.
14. 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

1. 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.
2. 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)
3. STRUCTURAL TUBING: CONFORM TO ASTM A500 GRADE B, 46 KSI.
4. STRUCTURAL PIPE: CONFIRM TO ASTM A53 GRADE B, 35 KSI.
5. FIELD CONNECTIONS SHALL BE BOLTED USING 3/4" DIAMETER ASTM A325N HIGH STRENGTH BOLTS (U.N.O.) EXCEPT WHERE SLIP CRITICAL CONNECTIONS ARE REQUIRED AS NOTED BY A325 (SC) ON THE DRAWINGS.
6. 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)
7. 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.
8. ALL STEEL SHALL BE FABRICATED AND SHIPPED AS BARE UN–PAINTED STEEL, EXCEPT STEEL PERMANENTLY EXPOSED TO VIEW. COORDINATE FINISH OF ARCHITECTURALLY EXPOSED STEEL WITH ARCHITECT.
9. SEE CONCRETE NOTES AND DRAWINGS FOR ANCHOR BOLT INFORMATION, TYP.
10. PROVIDE 3/8" MINIMUM STIFFENER PLATES EACH SIDE OF BEAM WEB AT BEAMS FRAMING OVER COLUMNS AND AT COLUMNS OVER BEAMS.
11. 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.
12. PROVIDE ALL ANGLES, PLATES, ANCHORS, BOLTS, ETC., SHOWN ON ARCHITECTURAL DRAWINGS.

REBAR LAP SPLICE TABLE

BAR SIZE	LAP LENGTH
#3	28"
#4	34"
#5	45"

TIMBER NOTES

1. ALL TIMBER FRAMING SHALL BE IN ACCORDANCE WITH THE AITC TIMBER CONSTRUCTION MANUAL–LATEST EDITION, AND THE AF & PA NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS) LATEST EDITION.
2. INDIVIDUAL TIMBER FRAMING MEMBERS SHALL BE VISUALLY GRADED. MINIMUM GRADE NO1/NO2 SPRUCE–PINE–FIR KILN DRIED TO 19% MAXIMUM MOISTURE CONTENT UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. 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:

   TRUS–JOIST: I–JOIST (TJI), PARALLAM (PSL), MICROLAM (LVL), TIMBERSTRAND (LSL)
   BOISE: I–JOIST (BCI), VERSALAM (LVL)
4. SUBSTITUTIONS OF ENGINEERED WOOD MATERIALS OTHER THAN THOSE SPECIFIED WILL BE PERMITTED ONLY WITH WRITTEN CERTIFICATION FROM THE MANUFACTURER THAT SUBSTITUTED ITEMS "MEETS OR EXCEED" ALL PROPERTIES OF SPECIFIED PRODUCT, INCLUDING ENGINEERING AND DURABILITY CHARACTERISTICS. SUBSTITUTIONS ARE SUBJECT TO APPROVAL BY THE ARCHITECT AND ENGINEER.
5. PRESSURE TREATED LUMBER SHALL BE USED FOR SILL MEMBERS, EXTERIOR EXPOSURE, OR WHERE SHOWN ON THE DRAWINGS. TIMBER SHALL BE SOUTHERN YELLOW PINE TREATED WITH CCA OR ACQ TO 0.4 #/CF IN ACCORDANCE WITH AWPA C–18. ACZA IS STRICTLY PROHIBITED.
6. ALL ROOF AND WALL SHEATHING SHALL BE APA PERFORMANCE–RATED. PROVIDE 5/8" THICK CD–X ROOF SHEATHING AND 1/2" THICK WALL SHEATHING (U.N.O.) SEE SHEARWALL SCHEDULE FOR NAILING REQUIREMENTS EXCLUSIVE TO SHEARWALLS. SHEATHING SHALL BE NAILED TO THE FRAMING AS FOLLOWS, U.N.O.:

   TYPICAL PANEL FASTENING (U.N.O.)
   A. ROOFS: 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.
7. FLOOR SHEATHING SHALL BE 3/4", APA RATED TONGUE AND GROOVE PANELS. GLUE AND NAIL TO FLOOR FRAMING WITH 8d RING SHANK NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS.
8. ALL BUILT–UP BEAMS AND COLUMNS SHALL BE NAILED AS FOLLOWS (FASTENING IN EACH PLY):

   UNIFORMLY LOADED BEAMS:
   BEAM DEPTH <16" – 2 ROWS OF 16d NAILS AT 12" O.C., STAGGERED
   BEAM DEPTH >=16" – 3 ROWS OF 16d NAILS AT 12" O.C. STAGGERED
   NOTE: SIDE LOADED BEAMS REQUIRE ADDITIONAL FASTENING. SEE DETAILS.

   COLUMNS:
   2–10d NAILS AT 6" O.C.
9. FASTENING NOT SPECIFIED SHALL CONFORM WITH IBC (2009) TABLE 2304.9.1. NAIL FASTENERS SHALL MEET THE REQUIREMENTS OF ASTM F1667. UNLESS NOTED OTHERWISE, NAILS REFERENCED ON DRAWINGS ARE TO BE COMMON NAILS WITH DIMENSIONS AS FOLLOWS.

   6d: 2" LONG BY 0.113" DIAMETER SHANK WITH 0.266" DIAMETER HEAD
   8d: 2 1/2" LONG BY 0.131" DIAMETER SHANK WITH 0.281" DIAMETER HEAD
   10d: 3" LONG BY 0.148" DIAMETER SHANK WITH 0.312" DIAMETER HEAD
   12d: 3 1/4" LONG BY 0.148" DIAMETER SHANK WITH 0.312" DIAMETER HEAD
   16d: 3 1/2" LONG BY 0.162" DIAMETER SHANK WITH 0.344" DIAMETER HEAD
   20d: 4" LONG BY 0.192" DIAMETER SHANK WITH 0.406" DIAMETER HEAD
   30d: 4 1/2" LONG BY 0.207" DIAMETER SHANK WITH 0.438" DIAMETER HEAD
10. ALL TIMBER CONNECTION HARDWARE (JOIST HANGERS, POST BASES, SHEARWALL HOLDOWNS, ETC) SHALL BE AS INDICATED ON THE DRAWINGS AND MANUFACTURED BY SIMPSON STRONG–TIE. ALL CONNECTION HARDWARE SHALL BE HOT–DIPPED GALVANIZED G–90 (U.N.O.). CONNECTION HARDWARE USED IN CONTACT WITH PRESERVATIVE TREATMENT SHALL BE GALVANIZED G185 (ZMAX) USE FASTENERS AND HANGERS OF SAME MATERIAL & COATING. REFER TO MANUFACTURER'S LITERATURE FOR PROPER HANDLING AND INSTALLATION GUIDELINES.
11. FASTENERS USED IN CONTACT WITH PT LUMBER SHALL BE HOT DIPPED GALVANIZED (ASTM A153), STAINLESS STEEL, OR OTHER FINISH AS APPROVED BY THE ENGINEER.

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Inspections Division
Approved with Conditions
Date: 06/04/15

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STATE OF MAINE
NATHAN R. MERRILL
No. 12237
PROFESSIONAL ENGINEER

Rev. No.	Date	Issued For	Appd

PINE ST. RESIDENCE
159 PINE STREET – PORTLAND, ME

GENERAL NOTES

Designed: NRM	Scale: NOTED
Drawn: MSK	Date: 04/17/2015
Checked: DSB	Becker Job Number: 3544

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