

## STRUCTURAL GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS. FURTHERMORE, THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR THE SAFETY OF ADJACENT PROPERTY AND THE PUBLIC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN SIGNAGE, BARRICADES, AND FENCING THROUGHOUT THE PROJECT.
2. NO PROVISIONS HAVE BEEN MADE FOR ANY TEMPORARY CONDITIONS THAT MAY ARISE DURING CONSTRUCTION PRIOR TO THE COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS, SHORING, AND TEMPORARY BRACING DURING THE PROJECT.
3. PRIOR TO WORK, THE CONTRACTOR SHALL REVIEW ALL ASPECTS OF SITE ACCESS, WORK SCHEDULE, AND COORDINATION WITH THE ARCHITECT AND ENGINEER TO ENSURE SMOOTH PROJECT FLOW.
4. WORK NOT INDICATED ON THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE INCLUDED.
5. THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN THE DRAWINGS AND EXISTING CONDITIONS THAT MAY AFFECT THE WORK. BECAUSE THIS PROJECT INVOLVES RETROFITTING AND MODIFICATIONS OF EXISTING STRUCTURES, THE CONTRACTOR SHALL TAKE THE NECESSARY MEASURE TO FIELD VERIFY EXISTING CONDITIONS AS SHOWN ON THE DRAWINGS. IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.
6. ANY MODIFICATION OR ALTERATION OF THESE CONSTRUCTION DOCUMENTS OR CHANGES IN CONSTRUCTION FROM THE INTENT OF THESE DOCUMENTS BY THE CONTRACTOR WITHOUT WRITTEN APPROVAL OF THE ENGINEER SHALL REMOVE ALL PROFESSIONAL AND LIABILITY RESPONSIBILITY ON THE PART OF THE ENGINEER. ALTERNATE CONNECTION DETAILS MAY BE USED IF SUBMITTED TO THE ENGINEER FOR REVIEW, AND ACCEPTANCE GRANTED.
7. DO NOT SCALE FROM THE DRAWINGS. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
8. SEE NOTES ON THIS SHEET FOR EACH STRUCTURAL MATERIAL.
9. IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE, CHAPTER 17, SPECIAL INSPECTIONS ARE REQUIRED, AND A STATEMENT OF SPECIAL INSPECTIONS IS REQUIRED FOR PERMIT ISSUANCE. THIS STATEMENT SHALL INCLUDE A COMPLETE LIST OF MATERIALS AND WORK REQUIRING SPECIAL INSPECTIONS, THE INSPECTIONS TO BE PERFORMED, AND A LIST OF THE INDIVIDUALS, APPROVED AGENCIES THAT ARE INTENDED TO BE RETAINED TO CONDUCT SUCH INSPECTIONS.

## DESIGN CRITERIA

1. INTERNATIONAL BUILDING CODE, 2003 EDITION; INCLUDING CONSIDERATION OF CHAPTER 34, EXISTING BUILDINGS, AND SECTION 3406.0, HISTORIC STRUCTURES.

FLOOR LIVE LOADS: 80 psf

WIND LOAD: PER IBC SECTION 1609.0/ASCE 7-02 CHAPTER 6

BASIC WIND SPEED, (3 SEC GUST)	100 mph
IMPORTANCE FACTOR $I_w$	1.00
EXPOSURE CATEGORY	B
BUILDING CLASSIFICATION	II
VELOCITY PRESSURE COEF. $K_z$	0.70
TOPOGRAPHIC PRESSURE COEF $K_{zt}$	1.00
DIRECTIONALITY FACTOR, $K_d$	0.85
VELOCITY PRESSURE $q_z$	15.32 psf

SNOW LOAD: PER IBC SECTION 1608:

GROUND SNOW LOAD $P_g$	60 PSF (FIGURE 1608.2)
TERRAIN CATEGORY	EXPOSURE C (SECTION 1609.4)
EXPOSURE FACTOR $C_e$	1.0 (TABLE 1608.3.1)
THERMAL FACTOR $C_t$	1.1 (TABLE 1608.3.2)
IMPORTANCE FACTOR $I_s$	1.0 (CATEGORY II, TBLE 1604.5)

FLAT ROOF SNOW LOAD 42 PSF  
UNBALANCED SNOW LOADS PER SECTION 7.6 OF ASCE 7-02

SEISMIC LOAD: IBC SECTION 1615.0; EARTHQUAKE DATA PER SECTION 1616.3:

SEISMIC USE GROUP	I
OCCUPANCY IMPORTANCE FACTOR, $I_p$	1.0
SHORT-PERIOD ACCELERATION $S_s$	0.37g
1.0 SECOND ACCELERATION $S_1$	0.10g
SITE CLASSIFICATION SOIL TYPE	D
MAXIMUM CONSIDERED EQ. ACCEL. PARAMETER $F_a$	1.50
MAXIMUM CONSIDERED EQ ACCEL. PARAMETER $F_v$	2.40
SHORT PERIOD ACCELERATION (ASCE 9.4.1.2.4-1, $S_{ms}$ )	0.56g
1.0 SECOND ACCELERATION (ASCE 9.4.1.2.4-2, $S_{m1}$ )	0.24g
SHORT PERIOD DESIGN SPECTRAL RESPONSE ACC.	0.37g
1.0 SECOND DESIGN SPECTRAL RESPONSE ACC.	0.16g

## FOUNDATIONS

1. NO SUBSURFACE TESTING HAS BEEN PERFORMED PRIOR TO CONSTRUCTION. FOUNDATION DESIGN IS BASED ON SHALLOW SPREAD FOOTINGS BEARING ON SUITABLE COMPACTED FILL OR NATIVE SOILS. FOUNDATION DESIGN IS BASED UPON THE FOLLOWING ASSUMED MINIMUM ALLOWABLE BEARING PRESSURES:  
SLABS ON GRADE: 500 PSF  
FOOTINGS: 2000 PSF
2. USE GROUNDWATER CONTROL TO PROVIDE A DRY, STABLE WORK AREA DURING ALL TEMPORARY CONSTRUCTION CONDITIONS INCLUDING, BUT NOT LIMITED TO, UNDERPINNING, STRIPPING AND RECOMPACTION, EXCAVATION, PLACEMENT, AND COMPACTION OF BACKFILL, FORMWORK INSTALLATION, AND CONCRETE PLACEMENT.
3. PLACE NO FOUNDATIONS IN WATER, ON SNOW, OR ON FROZEN GROUND.
4. FOUNDATION BACKFILL SHALL OCCUR IN MAXIMUM 12-INCH LIFTS, COMPACTED TO 95 PERCENT OF THE MATERIAL'S MAXIMUM DRY DENSITY.
5. DO NOT PLACE FILL FOR BUILDING SUPPORT UNTIL SUBGRADES HAVE BEEN OBSERVED AND APPROVED BY THE APPROPRIATE INSPECTION AGENCY.
6. DO NOT BACKFILL UNBRACED FOUNDATION WALLS TO AN UNBALANCED BACKFILL HEIGHT OF MORE THAN 3 FEET.
7. COMPACTED STRUCTURAL FILL FOR FOOTING SUBGRADES AND BELOW SLABS SHALL BE A CLEAN SAND AND GRAVEL MIXTURE CONFORMING WITH THE FOLLOWING REQUIREMENTS:

SCREEN OR SIEVE SIZE	PERCENT PASSING
3 INCH	100
½ INCH	25-70
No. 40	0-30
No. 200	0-5

8. SLOPE ANY FOOTING EXCAVATIONS AS REQUIRED FOR STABILITY AND SAFETY IN ACCORDANCE WITH OSHA REQUIREMENTS.

## CONCRETE

1. ALL CONCRETE WORK AND REINFORCING BAR DETAILS, INCLUDING LAP SPLICES, SHALL CONFORM TO THE LATEST ACI STANDARDS, ACI 301 AND 318.
2. ALL CONCRETE SHALL BE AIR ENTRAINED (5% TO 7%) AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED. WALL FOOTING CONCRETE MAY HAVE A COMPRESSIVE STRENGTH OF 3000 PSI.
3. PLACE CONCRETE WITH CONSTRUCTION JOINTS AS INDICATED ON THE DRAWINGS.
4. PLACE NO CONCRETE WITHOUT ENGINEER'S REVIEW AND APPROVAL OF THE REINFORCING AND EMBEDDED ITEMS.
5. FIRMLY SECURE ALL EMBEDMENTS IN CONCRETE, INCLUDING REINFORCING BARS, BY NONMETALLIC TIE WIRE TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT. VERIFY AND COORDINATE ALL DIMENSIONS AND LOCATIONS OF CONDUIT, ANCHOR BOLTS, AND OTHER EMBEDDED ITEMS AS REQUIRED.
6. ALL CONCRETE MATERIALS, REINFORCEMENT AND FORMS SHALL BE FREE FROM FROST OR DEBRIS.
7. CONSOLIDATE ALL CONCRETE WITH A VIBRATOR OR OTHER MEANS RECOMMENDED BY ACI 301. HONEYCOMBED SURFACES WILL NOT BE PERMITTED.
8. ROUGHEN CONCRETE SURFACE TO A FULL AMPLITUDE OF ½" WHERE KEYED CONSTRUCTION JOINTS ARE NOT INDICATED.
9. ALL CONCRETE REINFORCING SHALL BE ASTM A60 DEFORMED BARS; PROVIDE 3" CLEAR COVER TO ALL CONCRETE EXPOSED TO EARTH AND 1½" COVER TO ALL OTHER CONCRETE.
10. PROVIDE COMPLETE SHOP DRAWINGS AND SCHEDULES FOR REINFORCEMENT FOR ENGINEER TO REVIEW.
11. CONSTRUCTION JOINTS IN WALLS SHALL BE LESS THAN 40 FEET ON CENTER, AND WITHIN 15 FEET AWAY FROM WALL CORNERS.
12. PROVIDE WELDED WIRE FABRIC IN FLAT SHEETS, AND IN ACCORDANCE WITH ASTM A-185.

## MASONRY REHABILITATION

1. SEE DRAWING S2.0 FOR MASONRY REHABILITATION REQUIREMENTS.

## STRUCTURAL STEEL

1. UNLESS NOTED, STRUCTURAL STEEL SHALL BE ASTM A36,  $F_y = 36$  ksi. UNLESS NOTED, NEW A36 STRUCTURAL STEEL SHALL BE PRIMED WITH A ZINC-RICH PRIMER. ROUND PIPE COLUMNS SHALL BE ASTM A53 TYPE E. NOTE SPECIFIC STEEL GALVANIZING REQUIREMENTS FOR EXTERIOR EXPOSED STEEL LIGHT SHELVES AND CANOPIES.
2. STAINLESS STRUCTURAL STEEL SHALL BE ASTM A304 or 316 AS INDICATED ON DRAWINGS.
3. WELDED CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF AWS D1.1, STRUCTURAL WELDING CODE FOR PROCEDURES, APPEARANCE, QUALITY OF WELDS, AND METHODS USED IN CONNECTING WELDING WORK. WELDING ELECTRODES SHALL BE CLASS E70XX.
4. STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO THE AISC "SPECIFICATION FOR THE DESIGN FABRICATION AND ERECTION OF STRUCTURAL STEEL", LATEST EDITION.
5. BOLT FIELD CONNECTIONS USING ¾" DIAMETER ASTM A325N HIGH STRENGTH BOLTS.

## STRUCTURAL LUMBER AND COMPOSITE WOOD FRAMING

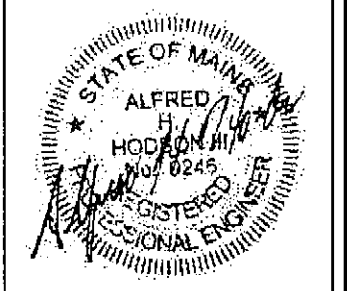
1. ALL LUMBER USED ON THIS JOB SHALL BE SPRUCE-PINE-FIR SOUTH (S-P-Fs) NO. 2 OR BETTER, KILN DRIED TO A MOISTURE CONTENT OF 15 PERCENT OR LESS. DO NOT USE LUMBER THAT HAS BEEN STORED IN DAMP CONDITIONS. USE PRESSURE-TREATED LUMBER WHERE INDICATED.
2. COMPOSITE LUMBER, WHERE INDICATED, SHALL BE VERSA-LAM, MANUFACTURED BY BOISE ENGINEERED WOOD PRODUCTS; BENDING STRESS  $F_b = 3,000$  psi, ELASTIC MODULUS  $E = 2,000$  ksi.
3. ALL JOIST HANGERS, HURRICANE TIES, AND ATTACHMENT HARDWARE ARE TO BE AS SPECIFIED, MANUFACTURED BY SIMPSON STRONG-TIE. CONNECT ALL JOIST HANGERS PER SIMPSON STRONG-TIE REQUIREMENTS. ALL SIMPSON HARDWARE SHALL BE "Zmax" PROTECTED WITH ADDITIONAL GALVANIZING.
4. DO NOTCH JOISTS IN THE MIDDLE THIRD OF THEIR SPAN.
5. FLOOR AND ROOF DECKING SHALL BE ADVANTEK SHEATHING AND DECKING, IN THICKNESSES INDICATED ON THE DRAWINGS. GLUE AND NAIL ALL FLOOR AND ROOF DECKING TO THE FRAMING. EXTERIOR SHEATHING SHALL BE ADVANTEK EXTERIOR SHEATHING.
6. BCI JOISTS SHALL BE PROVIDED BY BOISE ENGINEERED WOOD PRODUCTS, INC.
7. SINGLE-PITCH ROOF TRUSSES SHALL BE DESIGNED FOR 42 PSF UNIFORM SNOW LOAD, 63 PSF UNIFORM SNOW LOAD OVER HALF THE SPAN, AND 10 PSF UPLIFT ON UNLOADED ROOF. ROOF TRUSS MANUFACTURER SHOULD ALSO COORDINATE WITH OWNER FOR OVERHEAD DOOR WEIGHTS, LOCATIONS, AND SUSPENSION SYSTEM.

## CONSTRUCTION SEQUENCING OF PRIMARY STRUCTURAL WORK

1. PRIOR TO BEGINNING FULL-SCALE CONSTRUCTION OF INFILL AND ADDITIONS, PERFORM BRICK MASONRY AND ROOF REPAIRS ON THE TWO EXISTING BUILDINGS, SO THAT THEY WILL REMAIN WATERTIGHT FOR THE DURATION OF CONSTRUCTION.
2. INCORPORATE OTHER WORK DESCRIBED ON ARCHITECTURAL DRAWINGS INTO CONSTRUCTION SEQUENCING AS NECESSARY.

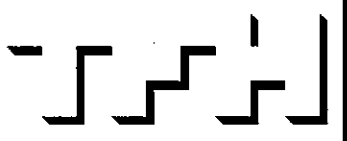
## SPECIAL INSPECTIONS

1. THIS PROJECT REQUIRES SPECIAL INSPECTIONS AS REQUIRED BY THE CITY OF PORTLAND AND CHAPTER 17 OF THE 2003 INTERNATIONAL BUILDING CODE. ADVANCE NOTICE OF CONSTRUCTION WORK MUST BE PROVIDED TO THE OWNER TO ENSURE PROPER SCHEDULING OF NECESSARY INSPECTIONS. FAILURE BY THE CONTRACTOR TO PROVIDE APPROPRIATE NOTICE OF WORK REQUIRING SPECIAL INSPECTION MAY DELAY WORK AT NO COST TO THE OWNER.
2. NECESSARY SPECIAL INSPECTIONS WILL BE PAID FOR BY THE OWNER. THESE INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE MIX AND SLUMP TESTING, CONCRETE REINFORCEMENT INSPECTION, MASONRY ANCHOR INSTALLATION, MASONRY MORTAR MIX TESTING, AND WELDING INSPECTIONS. A COPY OF THE STATEMENT OF SPECIAL INSPECTIONS WILL BE PROVIDED TO PROSPECTIVE BIDDERS FOR THIS PROJECT.



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Structural Notes

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