GENERAL STRUCTURAL NOTES

274 Park Ave
Reconstruction and Stabilization
Portland, ME

DESIGN LIVE LOADS: 2009 IBC/Maine Uniform Building Code, U.O.N.

* Snow 50 psf(Pg)
* Wind 100 mph, exp B, 3 second gust
* Residential Floors 40 psf
* Corridors and Stairs 100 psf

FOUNDATION:

* The existing building is currently settling and leaning as a result. This design allows for an additional equal amount of movement to occur. The structure should be periodically monitored into the future.

STRUCTURAL STEEL:

* Angles, misc.: ASTM A36
* Anchor Bolts: ASTM A307 or A36.
* Standard pipe columns: ASTM A 53, Grade B.
* Connector bolts: ASTM A325
* Post-installed Anchors shall be ICC-ES approved, installed in accordance with manufacturers specifications.
  In concrete: Wedge Type
  In solid masonry: Sleeve Type
* Non-shrink grout beneath column base and beam bearing plates shall be non-metallic with minimum compressive strength 5000psi.
* All structural steel shall be fabricated and erected per the current edition of AISC Steel Construction Manual.
* Welding by qualified welders. E70XX electrodes.

WOOD FRAMING:

* Dimension Lumber is designed and shall be supplied using BASE VALUES Design Criteria.
* SPF #2 and better (Maximum Moisture Content 19%) U.O.N.
  Plates: Sill plates: Pressure Treated SPF or Southern Pine:
  "Pressure treated lumber" shall be framing material of the specified species which has been pressure treated with a decay and insect resistant solution, meeting all current standards for wood in contact with concrete or earth.
  Sill plates in contact with masonry or concrete foundations, footings or slabs may be treated Timber Strand LSL (zinc borate treatment). Sodium borate treatment may also be acceptable for sill plate applications when protected from weather.
  Acceptable treatment mediums for wood in contact with earth or in exterior applications include ACQ-C and ACQ-D (Alkaline Copper Quaternary) and copper azole (CBA-A and CBA-B).
  DO NOT USE WOODS WHICH HAVE BEEN TREATED WITH AMMONIA BASED CARRIERS.
  All connectors shall meet the recommendations of the pressure treated wood manufacturer, but shall be not less than Hot Dipped Galvanized meeting requirements of ASTM A653, such as Simpson ZMAX. (G185). All screws, nails and bolts shall match hangers and other connectors, and shall meet ASTM A123 for individual connectors, and ASTM A153 for fasteners.
  For durability, it is our recommendation that connectors used in exposed conditions with treated lumber be stainless steel.
  Do not mix galvanized and stainless products.
  Do not allow aluminum to contact treated wood.

  Top and Bottom Plates: SPF No 2 and better
  Hem Fir Studs U.O.N: 2 x 4 and 2 x 6 to 8'-0: stud grade
  2 x 4 over 8'-0: standard and better
  2x 6 over 8'-0: No. 2 and better
  Floor Joists: see plans
  Rafters: See plans
* Beams: Douglas Fir No. 1, Fb=1350 psi, E=1,600,000 psi
* Columns: Douglas Fir No. 1, Fb=1200 psi, E=1,600,000 psi
* Laminated Veneer Lumber (LVL): Manufactured 1 3/4" wide Microllams (ML) by Ilevel/Trus Joist or equivalent.
  Fb=2,600 psi, E=1,900,000 psi, Fv=285 psi, depth noted on plans.

* All plywood and oriented strand board (OSB) sheathing shall be engineered grades with APA grade stamp indicating appropriate maximum spacing of supports.
  Floor sheathing: nominal 3/4", APA Sturd-I-Floor "24" tongue & groove glued and nailed.
  Roof sheathing: minimum 5/8" CDX plywood, or 19/32" OSB, APA 40/20, nailed.
  Wall sheathing: 1/2" CDX plywood or 7/16" OSB, APA 24/16, blocked and nailed.

* Nail wall sheathing with 8d commons per shear wall schedule at panel edges, and 12" o.c. intermediate framing U.N.O. BLOCK AND NAIL ALL EDGES BETWEEN STUDS. Sheathing shall be continuous from bottom plate to top plate.

* SHEATH INTERIOR WALLS AS SHOWN ON THE DRAWINGS.

* Minimum nailing shall comply with IBC Table 2304.9.1 except where more or larger nailing shown on drawings.
* All roof rafters, joists, beams shall be anchored to supports with metal framing anchors.
* Double joists under partitions where joists are parallel to partitions.
* Provide continuous wall studs each side of wall openings equal to one half or greater of number of studs interrupted by openings.
* All wall studs shall be continuous from floor to floor or from floor to roof.
* Cross bridge all dimension lumber roof and floor joists at midspan and provide solid blocking or rim joists at all joist supports and joist ends.
* Metal connectors: Simpson Strong Tie unless otherwise noted, installed with number and type of nails to achieve maximum rated capacity. Note that heavy duty and skewed hangers may require special order.
* All beams shall be braced against rotation at points of bearing.
* Drypack grout all beam pockets full after beams are set.
* Unless otherwise indicated, install two lengths of solid blocking x joist depth x 12 inches long in floor framing under column loads. Columns must have a continuous load path to foundation.
* Lead holes for lag bolts shall be 60% to 70% of lag shank diameter in compliance with AITC criteria.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

* The structural drawings illustrate the completed structure with all elements in their final positions, properly supported and braced. The contractor, in the proper sequence, shall provide proper shoring and bracing as may be required to achieve the final completed structure.
* These plans have been engineered for construction at one specific building site. Builder assumes ALL responsibility for use of these plans at Any Other building site. Plans shall not be used for construction at any other building site without specific review by the engineer.
* Observations of reinforcing or framing required by the owner, lender, insurer, building department or any other party will be accomplished by the engineer at the owner's expense. At least 24 hours advance notice is requested.

STATE OF MAINE
AARON C. JONES
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LICENSED
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11/30/10

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DATE: 11/30/10

Stabilization/ Fire Damage Repairs
274 Park Ave
Portland, ME 04101

GENERAL NOTES, Etc.

S-1.0