

**DRAWING KEY / SYMBOLS / ABBREVIATIONS:**

- Indicates span of structural element including but not limited to framed slabs, walls, metal deck & fascia.
- Indicates direction of "called North" for the project. See Civil Drawings for geographic North.
- Section and detail marks:
  - on drawing where marked: Detail or section number
  - Drawing number where detail or section appears
  - where appears on drawing: Detail or section number
  - Drawing number where detail or section is marked
- Symbols:
  - Centerline
  - Pounds or Number
  - At
  - Diameter
  - Plus Angle
  - Indicates moment connection at end of member
  - Indicates diagonal bracing member
- Abbreviations:
  - A.B. Anchor Bolt
  - B. or BOT. Bottom
  - BAL. Balance
  - BEW. Bottom Each Way
  - B.F. Braced Frame
  - BM. Beam
  - CMU Concrete Masonry Unit
  - COL. Column
  - CT. Cooling Tower
  - D. & E. Drill & Epoxy
  - DN. Down
  - DWG. Drawing
  - (E) or (EXIST) Existing
  - EA. Each
  - E.I. or EXP. JT. Expansion Joint
  - EL. or ELEV. Elevation
  - EMBED. Embedment
  - EW. East West
  - EXT. Exterior
  - FIN. FL. Finished Floor
  - FL. Floor
  - FS. Far Side
  - FTG. Footing
  - GA. Gage
  - GALV. Galvanized
  - GB. Grade Beam
  - H. or HORIZ. Horizontal
  - HEF. Horizontal Each Face
  - H.P. High Point
  - ID. Inside Diameter
  - IN. Inch
  - INT. Interior
  - KSF Kips (1000 pounds) per square foot
  - KSI Kips (1000 pounds) per square inch
  - LBS. Pounds
  - LLH Long Leg Horizontal
  - LLV Long Leg Vertical
  - LP. Low Point
  - L.W.C. Light Weight Concrete
  - M.F. Moment Frame
  - MLS. Millimeters
  - NS. Near Side
  - N/S. North South
  - N.T.S. Not To Scale
  - N.W.C. Normal Weight Concrete
  - OD. Outside Diameter
  - O.J. Opposite Hand
  - P.C. Pile or PIP Cap
  - PEN. Penetration
  - PIF Pressure injected Footing
  - PL. or PLT. Plate
  - PSF Pounds per square foot
  - PSI Pounds per square inch
  - PVC Poly Vinyl Chloride
  - RAD. or R. Radius
  - RF. Roof
  - SHT. Sheet
  - SIM. Similar
  - S.O.G. Slab on Grade
  - SS. Square
  - SS. Stainless Steel
  - STD. Standard
  - STIFF. Stiffness
  - SYM. Symmetrical
  - T. Top
  - TB. Tie Beam
  - TBD. To Be Determined
  - TEW. Top Each Way
  - THK. Thick or Thickness
  - T.O.D. Top of Deck
  - T.O.S. Top of Steel
  - TSP. Tons per square foot
  - TYP. Typical
  - UNO. Unless Noted Otherwise
  - V. or VERT. Vertical
  - V.B. Vapor Barrier
  - VEF. Vertical Each Face
  - V.I.F. Verify in Field
  - W.P. Work Point
  - W.W.F. Welded Wire Fabric

**GENERAL NOTES:**

- All work shall conform to the requirements of the IBC 2003 Building Code.
- Structural drawings may represent construction with a reference scale. Due to the process of drawing development and revision, not all work may be shown "exact" in scale. Do not "scale" drawings to obtain missing information or to interpret any information not specifically dimensioned for "exact" detailing, fabrication or construction purposes.
- Structural work not indicated on the drawings but reasonably implied to be similar to that shown at corresponding places, shall be included in the Contractor's work.
- The Contractor is completely responsible for the safety of adjacent structures, property, his workmen, and the general public, as affected by the construction of this project.
- All Contractors are required to examine the contract documents, visit the site and fully inform themselves as to all existing conditions and limitations, prior to agreeing to perform the work. Failure to visit the site and familiarize themselves with the existing conditions and limitations will not relieve the Contractor from furnishing materials or performing work in accordance with the drawing and specifications without additional cost to the Owner.
- The Contractor shall verify all existing dimensions and conditions in the field prior to commencing work. It is the Contractor's responsibility to make field measurements in time for their incorporation in the Shop Drawings of new work. Any discrepancies that exist between existing conditions and the contract documents shall be brought to the attention of the Architect and Engineer.
- Furnish and place all supports, temporary and permanent, whether shoring, bracing, needling, underpinning, and/or sheet piling, necessary to brace existing construction to remain, so that no settlement of any kind occurs to the existing structures. Temporary supports shall be maintained in place until permanent supports are installed. Design of these supports shall be by an engineer registered in the state of construction and in the employ of the Contractor.
- See architectural drawings for floor/roof elevations, slopes, and locations of depressed or raised floor or roof areas. The Contractor shall compare the structural drawings with the architectural drawings and report any discrepancy to the Architect and Engineer prior to construction.
- Primary openings through the framing are shown on these drawings. The General Contractor shall examine the structural and mechanical drawings for the required openings and shall verify size and location of all openings with the Mechanical contractor. Providing the openings required by all trades shall be a part of the General Contract, whether or not shown in the structural drawings. Framing details are given in these drawings for such openings. Any deviation from the openings shown on the structural drawings shall be brought to the Architect's and Engineer's attention for review.
- Alternate connection details may be used if such details are submitted to the Engineer for review and approved. However, the Engineer shall be the sole judge of acceptability and the Contractor's bid shall anticipate the use of these specific details shown on the drawings. The Contractor shall retain a registered Structural Engineer to be responsible for the design of any alternate details which he proposes.
- Where these General Notes are in conflict with project specifications, information shown on General Notes governs.

**DESIGN LOADS:**

- Uniformly Distributed Floor Live Loads:
  - Offices and administration ..... 50 psf + 20 psf partition allowance
  - Corridors and elevator lobby above 1st floor.... 80 psf
  - Storage ..... 125 psf
  - Stairs ..... 100 psf
  - Ground level u.o.a. .... 125 psf
  - Mechanical/storage areas ..... 150 psf x
  - Courtyard ..... 100 psf
  - Residential, apartments, guest rooms ..... 40 psf + actual partition loads

x = or actual equipment weights where greater
- Roof Live Load:
  - Pg = 50 psf
  - Cf = 1.0
  - Ce = 1.0
  - Is = 1.0

Basic Uniform Snow Load, Pf = 35 psf. Additional loadings due to snow drift applied in accordance with the IBC 2003 Building Code.
- Concentrated Live Loads:
  - Floors have been designed to support the uniformly distributed live loads prescribed above, or the following concentrated loads, which ever produces the greater stress.

Location	Concentrated Load
Elevator machine room gratings (on 2.0 inches square)	300 lbs.
Concrete slabs (including those supported by metal deck) (on 30 inches square)	2000 lbs.
Hatches, skylight ribs, and accessible ceilings (on 10 inch square)	200 lbs.
Concrete pan stair treads (on 2.0 inches square)	300 lbs.
Roofs w/o concrete (on 6 inches square)	200 lbs.

**4. Live Load Reduction:**

For design live loads of 100 psf or less, except for buildings of Use Group A (assembly) or Use Group E (educational) and for garages or open parking structures and for one-way slabs and for roofs, a structural member having an influence area of 400 square feet or more may be designed for a reduced live load determined by the following formula:

$$L = L_0 (0.25 + 15 / e \text{ KLLAT})$$

Where:

L = reduced design live load (psf)  
 L<sub>0</sub> = basic design live load (psf)  
 AT = tributary area (square feet)  
 KLLAT = Influence area  
 KLL per Table below:

ELEMENT	KLL
Inferior columns	4
Exterior columns without cantilever slabs	4
Edge columns with cantilever slabs	3
Corner columns with cantilever slabs	2
Edge beams without cantilever slabs	2
Inferior beams	2
All other members not identified above including:	
Edge beams with cantilever slabs	1
Cantilever beams	1
Two-way slabs	1
Members without provisions for continuous shear transfer normal to their span	1

Design live loads greater than 100 psf, structural members supporting more than two floors may be designed for a reduced live load equal to 80% of the design live load.

**5. Wind Loads:**

IBC 2003  
 W = 90 mph  
 V<sub>50</sub> = 90 mph  
 V<sub>10</sub> = 75 mph Exposure D

**6. Earthquake Loads:**

IBC 2003:  
 Site Class D  
 Seismic Use Group I  
 Seismic Design Category C  
 OMF R = 3.5 Cd = 3  
 S<sub>ds</sub> = 0.325 S<sub>d1</sub> = 0.123  
 I<sub>e</sub> = 1  
 T = Building Period

Analysis Type = Equivalent Lateral Force  
 Cs = S<sub>d1</sub> / (R / I<sub>e</sub>) T = 0.031

**7. Foundation walls are designed for the following equivalent fluid pressures in pounds per cubic foot (pcf):**

At rest lateral earth pressure = 65  
 Active lateral earth pressure = 42  
 Passive lateral earth pressure = 325 pcf  
 Surcharge at walls = 125 psf (250 psf vertical load)  
 Seismic loads: IBC 2003 Building Code

**FOUNDATIONS:**

- The foundation design is based on recommendations contained in the Geotechnical Report by the S.W. Cole dated September 25, 2006. Contractor is responsible to follow the direction and limitations contained in the report as it pertains to performing foundation work for this project.
- Where indicated, foundations shall be placed on undisturbed soil or compacted engineered fill. No foundations shall be placed in water or on frozen ground. Allowable bearing pressure is 1 kip per square foot. Top or bottom foundation elevations where given, are minimum depths, and are not to be construed as limiting in any way the depth of excavation required to reach the bearing condition required by the project geotechnical report.
- Piles shall be steel HP type to support design loads as follows. Install piles to the requirements of the specification.
 

Size (ASTM A572 Gr 50)	Capacity
HP12x53	100 k
HP10x57	150 k
HP12x74	200 k
HP14x89	250 k
- Foundations subject to frost conditions shall be installed to a minimum of 4'-6" feet below finished exterior grade or the lowest slab level within unheated space.
- All foundation excavations are to be finished by hand and inspected and approved by the Architect or his designate before any concrete is placed, unless otherwise directed by the Geotechnical Engineer.
- Unless otherwise noted, all foundation elements are to be centered under supported members.
- Dowel bars between construction elements shall match bars of primary reinforcement.
- Where foundation elements require back fill on each side, all sides shall be filled simultaneously. Maintain a maximum backfill differential elevation of 1'-0" u.o.a.
- Contractor shall control surface and underground water as required during construction so that all foundation work is done in the dry. The Contractor shall insure that ground water levels under adjacent structures are not altered in any way by the construction. In addition, where so directed by these plans or by the project geotechnical report, the Contractor will continue to maintain a condition of no hydrostatic pressure until sufficient building weight is in place to prevent flotation of any part of the structure.
- Cantilevered walls retaining earth at the building perimeter shall be completely backfilled prior to steel erection. Retaining walls north of grid line W and east of grid line 33 may be backfilled before or after steel erection.
- Overlap joints at vapor barrier 12" minimum and continuously tape seams.
- Individual pile plan locations shall be submitted to the Structural Engineer for review prior to fabrication of the reinforcing for pile caps. Piles driven out of specified plan tolerance will require adjustment to cap size and reinforcing. Adjustments may also be required at adjacent tie beams and grade beams. Plan dimensions shown for pile caps on these drawings represent minimum requirements.
- Weep holes shall be screened and backfilled with crushed stone for 1'-0" x 1'-0" x 1'-0" area at rear opening.

**CONCRETE:**

- All concrete work shall be controlled concrete, mixed and placed under the supervision of an approved testing agency and conform to the latest edition of the ACI Building Code Requirements for Reinforced Concrete (ACI 318) and the IBC 2003 Building Code. In case of conflict, the IBC 2003 Building Code shall govern.
- For locations listed below, concrete shall be normal weight concrete with sand and gravel aggregate, type I or type II Portland Cement and a minimum compressive strength (f'c) in 28 days as follows:

Location	Strength
All foundation concrete	4000 psi
Fill concrete	3000 psi
Mud mats	2000 psi
Steel members encasement	3000 psi
Slabs on grade	3500 psi
Precast plank	5000 psi

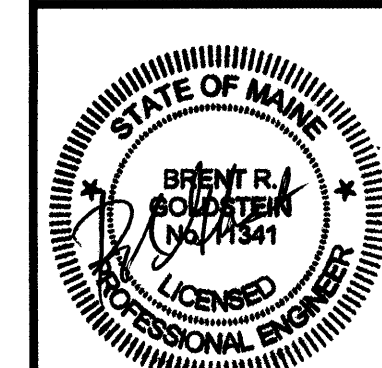
- Concrete must reach the following percentages of its 28-day compressive strength (f'c) before forms or shores may be removed:

Location	Minimum %
Pile caps	20%
Walls and beam sides	20%

- Concrete at walls retaining unbalanced levels of soil on each side shall reach specified 28 day strength prior to back filling on either side. Concrete directly supporting steel members must reach 75% of specified 28 day strength prior to erecting steel on it.
- Refer to architectural drawings for concrete finishes. Where finish is not specified, conform to requirements of ACI 301 - "Specifications for Structural Concrete for Buildings".
- All concrete directly exposed to the weather or possible freeze/thaw action shall contain an air entrainment admixture. See specifications for air content.
- Expansion, control or construction joints locations shown on the drawings may not be altered without prior written approval of the Structural Engineer. At poured in place walls and footings construction joints shall be located to allow a maximum pour length of 60'-0".
- All concrete shall be placed without horizontal construction joints, except where specifically noted. Vertical construction joints and stops in shored concrete work shall be made at mid-span. Horizontal reinforcement shall be continuous through vertical construction joints.
- The steel framing has been designed as unshored construction, and the plans may show camber of some members to counteract deflection under the weight of precast plank as it is placed.
- Grout under all bearing plates shall be non-shrink, nonmetallic grout with a minimum compressive strength of 5000 psi at 3 days.
- Pipes or conduits placed in slabs on grade shall not be placed closer than 3 diameters on centers and shall have an outside diameter less than 1/3 of the slab thickness and be positioned so that they do not interfere with slab reinforcement. Aluminum conduits shall not be placed in concrete. No conduits or pipes shall be placed in slabs on metal deck.
- Slab permanently supported by soil may be poured on as large an area as can be handled provided that sawcut joints are cut as soon as the concrete will support a man's weight without permanent deformation and the joint process does not dislodge aggregates.
- No concrete shall be cast before review and approval of the reinforcing and embedded items have been obtained from the Architect, or his designated representative.
- Any key shown on the drawings is to be continuous and nominal size 2" x 4" u.o.a.
- Concrete cast on sloped surfaces shall begin at the lowest elevation and continue uninterrupted toward the higher elevations.
- See architectural drawings for door and window openings, drips, washes, reglets, masonry anchors, and for miscellaneous embedded plates, bolts, anchors, angles, etc.
- All exposed edges of concrete members shall be chamfered 3/8" unless shown otherwise on architectural drawings.
- Contractor must submit a detailed layout of proposed slab openings and block out showing exact dimensions relative to framing members and/or column grids for approval by the Structural Engineer prior to cutting any openings.
- At sawcutting of existing concrete, including slabs on grade, no overcut at corners is allowed. All corners shall have a core hole of sufficient diameter made prior to cutting at adjacent sides to prevent cut beyond the required dimension.

**PERMIT ISSUE - 09/27/07**

NO.	REVISION	DATE
SCALE: NONE		DRAWN BY: FTV
DATE: 09/27/07		CHECKED BY: BRG



**PROJECT**

**RESIDENCE INN BY MARRIOTT**

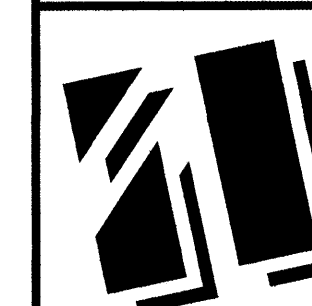
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**TITLE**

**GENERAL NOTES I**

**GROUP ONE**  
 21 W. THIRD STREET, BOSTON, MA 02127  
 TEL: (617)268-7000 FAX: (617)268-0209



**DRAWING NO.**

**S1.0**