1. ALL BEARING PLATES SHALL BE 0'–7 1/2" x 0'–7 1/2" x 0'–5/8" UNLESS OTHERWISE NOTED AND SHALL BE ANCHORED WITH STANDARD 3/8" ANCHORS (2 MINIMUM).

2. MINIMUM LOADING REQUIREMENTS:

A. ROOF LOADS: (EXCEPT AT DRIFTING SNOW LOCATIONS AND THOSE LISTED BELOW)
LIVE (SNOW) LOAD: Pg = 60 P.S.F. (IMPORTANCE FACTOR Is = 1.0; THERMAL FACTOR = 1.1
DEAD LOAD: 20.0 P.S.F. (TYP.)

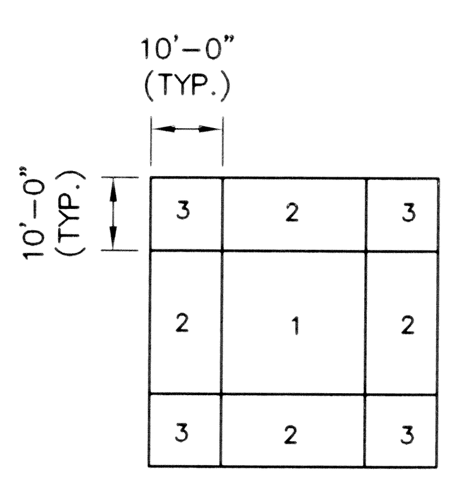
B. FLOOR LOADS: (PSF)

LOBBIES:	LIVE 100
STORAGE ROOMS:	LIVE 125
MECHANICAL/ELEVATOR ROOMS:	LIVE 125
RESIDENT SPACES & CORRIDORS:	LIVE 40

C. WIND LOADS:

1. FACTORS:
BASIC WIND SPEED: 100 MPH EXPOSURE CATEGORY: "B"
IMPORTANCE FACTOR (If) : 1.0
HEIGHT & EXPOSURE COEF. (BASED ON BLDG. HEIGHTS)
SEE IBC 2003 TABLE 1609.6.2.1 (#4)

2. MINIMUM ROOF UPLIFT DESIGN LOADS: **(FM 1–90 CLASSIFICATION)**
FIELD (ZONE 1): 28 PSF
PERIMETER (ZONE 2 –10' WIDE): 40PSF
CORNERS (ZONE 3 – 10'x10'): 52PSF
BUILDING HEIGHT: SEE ARCH. ELEVATIONS



TYPICAL ROOF ZONE LAYOUT

D. SEISMIC LOADS:

S_s = 0.369 ; S_1 = 0.98
Fa = 1.50 ; Fv = 2.40
SEISMIC SITE CLASSIFICATION = D
Sds = 0.369 ; Sd1 = 0.157
SEISMIC USE GROUP: D
SEISMIC DESIGN CATEGORY : D
SEISMIC IMPORTANCE FACTOR: 1.0

4. ALL STRUCTURAL STEEL BEAMS, COLUMNS SHALL CONFORM TO ASTM A992, Fy=50ksi ALL STEEL TUBE/PIPE COLUMNS SHALL CONFORM TO ASTM A500 GRADE "B", Fy=46ksi ALL MISCELLANEOUS PLATES, SHAPES, ANGLES ETC. SHALL CONFORM TO ASTM A36 Fy=36ksi.

20. ALL BASE PLATE ANCHOR BOLTS IN NEW CONSTRUCTION SHALL BE HEADED BOLT 3/4"ø A–307 WITH A MINIMUM OF 9" EMBEDMENT. ALL BASE PLATE ANCHOR BOLTS IN EXISTING CONSTRUCTION SHALL BE 3/4"ø A–307 WITH A MINIMUM OF 12" EMBEDMENT AND SET IN EPOXY.

21. SUBSURFACE SOILS REPORT : REFERENCE EXPLORATIONS AND GEOTECHNICAL REPORT PREPARED BY R. W. GILLESPIE & ASSOCIATES, INC. FILE No. 915–04 FOR SUBSURFACE CONDITIONS, FILL GRADATION REQUIREMENTS, PERIMETER DRAINAGE AND BACKFILL/COMPACTION REQUIREMENTS. OWNER TO PROVIDE COPIES OF REPORT FOR CONTRACTORS USE.

22. PERIMETER FOUNDATION DRAINAGE: UNDERDRAINS SHALL BE PLACED AS SHOWN ON THE SITE DRAWINGS. UNDERDRAINS SHALL BE INSTALLED TO POSITIVELY DRAIN TO A SUITABLE DISCHARGE POINT AWAY FROM THE STRUCTURE. REFER TO SITE DRAWINGS FOR ADDITIONAL INFORMATION.

A1 STRUCTURAL NOTES

1. FOUNDATIONS HAVE BEEN DESIGNED TO CONFIRM WITH RECOMMENDATIONS PROVIDED IN THE SUBSURFACE INVESTIGATION REPORT BY R. W. GILLESPIE & ASSOCIATES, INC.
2. ALL 4" SLABS ON GRADE SHALL BE REINFORCED WITH #3 BARS AT 18" O.C. EACH WAY UNLESS OTHERWISE NOTED. ALL 5" SLABS ON GRADE SHALL BE REINFORCED WITH #4 BARS AT 18" O.C. UNLESS OTHERWISE NOTED.
3. FOUNDATION WALL CONTROL JOINTS SHALL BE PLACED AS SHOWN ON THE BUILDING ELEVATIONS OR AT 30'–0" O.C. MAXIMUM SPACING (EXTERIOR) AND AT A MAXIMUM SPACING OF 60'–0" (INTERIOR). AT CONTROLS JOINTS, DISCONTINUE EVERY OTHER HORIZONTAL BAR. AT CONSTRUCTION JOINTS, ALL REINFORCING SHALL BE CONTINUOUS THROUGH THE JOINT.
4. FLOOR SLAB CONTROL JOINTS (INCLUDING ELEVATED SLAB) SHALL BE PLACED AS SHOWN ON THE FOUNDATION PLAN (SLAB ON GRADE), UPPER LEVEL SLAB PLAN (ELEVATED SLABS) OR AS DIRECTED BY THE ENGINEER. UNLESS OTHERWISE NOTED, CONTROL JOINTS WILL BE SPACED NOT TO EXCEED 12'–0" O.C. IN BOTH DIRECTIONS AND SHALL BE FILLED WITH SEALANT AT THE COMPLETION OF THE PROJECT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF:
   A. CHECK WITH ALL TRADES TO ASSURE CORRECT LOCATION, SIZE, LINE AND ELEVATION OF ALL SLEEVES, BOND–OUTS, ETC.. REQUIRED IN CONCRETE FLOORS AND WALLS.
   B. THE PLAN LOCATION OF MASONRY SHELVES SHOWN ON PLAN ARE APPROXIMATE. THESE LOCATIONS MUST BE COORDINATED WITH BOTH ARCHITECTURAL AND SITE GRADING PLANS PRIOR TO PLACEMENT OF CONCRETE.
6. ALL INTERSECTING CONCRETE WALLS SHALL BE TIED WITH #4 L BARS 3'–0" LONG (BENT 18" – 18"), SPACED AT SAME SPACING AS HORIZ. WALL REINFORCEMENT, OUTSIDE FACE ONLY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FLOOR DRAIN SETTING FOR ELEVATION AND PLUMBNESS TO ASSURE COMPLETE AREA DRAINAGE.
8. REFER TO SPECS FOR ALL EXPOSED CONCRETE FINISH
9. ALL MECHANICAL EQUIPMENT RESTING ON THE CONCRETE FLOOR SLAB WILL HAVE A 4" HIGH CONCRETE PAD UNDERNEATH, REINFORCED WITH #3 BARS AT 18" O.C. EACH WAY.
10. ALL STRUCTURAL STEEL BELOW FINISH FLOOR SHALL RECEIVE (2) COATS OF BITUMINOUS MASTIC.
11. ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED. CONCRETE SHALL NOT BE IN DIRECT CONTACT WITH ALUMINUM.
12. PROVIDE IN ALL SLABS ON GRADE (2) #4 BARS 4'–0" LONG AT EACH REENTRANT CORNER AND BOTH SIDES OF DOOR OPENING.
13. FOUNDATION WALL REINFORCING WILL BE ADJUSTED AS REQUIRED NOT TO INTERFERE WITH BASE PLATE ANCHOR BOLTS.
14. REFER TO ACI 318 (LATEST EDITION) FOR MINIMUM CONCRETE COVER FOR REINFORCING STEEL.
15. UNLESS OTHERWISE NOTED, REINFORCING LAP SPLICES SHALL BE ACI CLASS B SPLICES USING THE FOLLOWING LAP LENGTHS:

BAR SIZE	4	5	6	7	8	9	10
LAP (in.)	19	23	28	38	43	49	62

16. COORDINATE SLAB DEPRESSIONS WITH ARCHITECTURAL DRAWINGS.
17. DRILLED–IN ANCHOR BOLTS OR REBAR DOWELS SHALL BE INSTALLED AS FOLLOWS:
   - LOCATE ANCHOR BOLTS OR DOWELS TO AVOID CUTTING EXISTING REBAR.
   - DEPTH IS BASED ON A CLEAN HOLE WITH ROUGH SIDES. ROTARY PERCUSSION EQUIPMENT AND COARSE ROCK CUTTING CHISELS ARE RECOMMENDED. DIAMOND CORE BITS SHOULD BE AVOIDED AS EMBEDMENT LENGTHS MAY NEED TO BE INCREASED. HOLE SIZE TO BE PER MANUFACTURER'S RECOMMENDATIONS.
   - CLEAN HOLES WITH COMPRESSED AIR OR VACUUM, REMOVE ANY FREE–STANDING WATER AND ALLOW HOLE TO DRY.
   - GROUT ANCHOR BOLTS OR DOWELS WITH HILTI HIT HY–20 OR HY–150 ADHESIVE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. (HILTI HEA ADHESIVE CAPSULE MAY BE SUBSTITUTED FOR THE HILTI HIT HY–20 OR HY–150 ADHESIVE.)
18. OPEN EXCAVATIONS SHALL BE ADEQUATELY BRACED OR PROPERLY BENCHED. DEWATERING IS ANTICIPATED FOR ALL EXCAVATIONS.
19. BACK FILL BOTH SIDES OF FOUNDATION WALLS SIMULTANEOUSLY.

E4 FOUNDATION NOTES

CONCRETE NOTES

1. CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318 – LATEST EDITION)," AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301–LATEST EDITION).

2. GENERAL CONTRACTOR, CONSTRUCTION MANAGER 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 EDITION]".–

3. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN THE PRESENCE OF A REPRESENTATIVE OF AN APPROVED TESTING AGENCY.

4. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE.

FOUNDATION WALLS AND FOOTINGS	4,000 PSI NWT
GROUND FLOOR SLAB–ON–GRADE (NO AIR–ENTRAINMENT)	3,000 PSI NWT

5. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.

6. PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH EXTERIOR CONCRETE WALLS, BEAMS OR SLABS.

7. 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.

8. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A–185 AND BE PROVIDED IN FLAT SHEETS.

9. FIBER REINFORCEMENT SHALL BE TYPE III SYNTHETIC VIRGIN HOMOPOLYMER POLYPROPYLENE FIBERS CONFORMING TO ASTM C1116.

10. COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING STEEL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. REFER TO SPECIFICATIONS. PROVIDE AND SCHEDULE ON SHOP DRAWINGS THE NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS AT 4'–0" O.C. WITH CONTINUOUS #5 SUPPORT BAR; SLAB BOLSTERS, CONTINUOUS AND 3'–6 O.C.; BEAM BOLSTERS AT 5'–0" O.C.

11. WELDING OF REINFORCEMENT IS NOT PERMITTED.

12. FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS, PROVIDE SUPPLEMENTAL REINFORCING AROUND OPENING AS SHOWN ON THE CONTRACT DOCUMENTS TYPICAL DETAILS.

13 CONSTRUCTION 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 OF THE STRUCTURAL ENGINEER.

14 WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE

B4 CONCRETE NOTES

1. PROVIDE & INSTALL MASONRY LINTELS FOR ALL MASONRY WALL OPENINGS UNLESS INDICATED OTHERWISE ON DRAWINGS. PROVIDE MASONRY LINTELS OF SIZE AND REINFORCEMENT AS FOLLOWS:

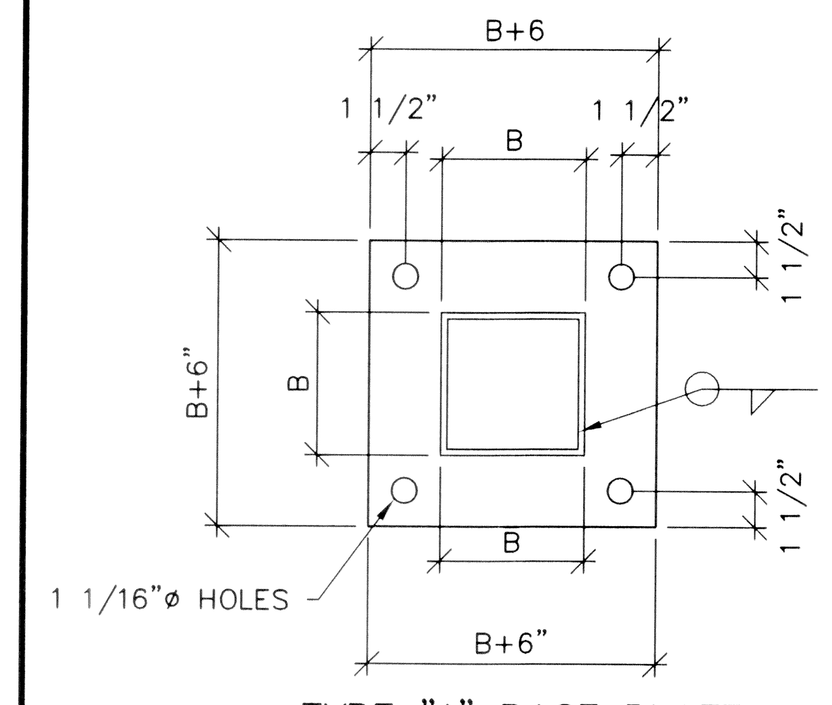
   A. OPENINGS UP TO 3'–11" (UNLESS OTHERWISE NOTED) — PROVIDE 16" HIGH C.M.U. LINTEL w/ (2) #6 BARS IN 8" WIDE UNITS; (3) #6 BARS IN 12" WIDE UNITS

   B. OPENINGS 4'–0" TO 8'–0" (UNLESS OTHERWISE NOTED) — PROVIDE 8" HIGH C.M.U. LINTEL w/ (2) #4 BARS IN 8" WIDE UNITS; (3) #4 BARS IN 12" WIDE UNITS

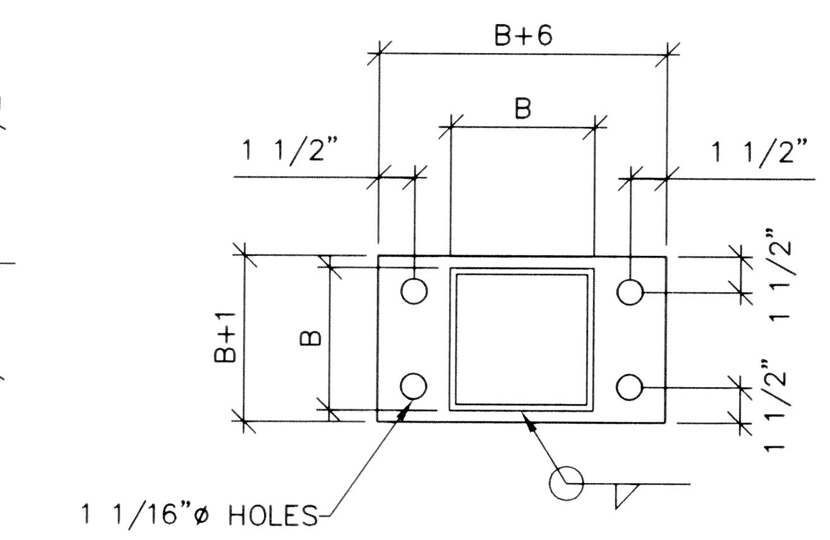
   C. INSTALL FOR ALL OPENINGS AND PENETRATIONS IN BRICK UP TO 3'–11" WIDE (UNLESS OTHERWISE NOTED) (1) 4"x3 1/2"x 1/4" STEEL ANGLE LINTEL. FOR ALL OPENINGS AND PENETRATIONS BETWEEN 4'–0" AND 8'–0" WIDE (UNLESS OTHERWISE NOTED) (1) 6"x3 1/2"x5/16" STEEL ANGLE LINTEL. EXTERIOR LINTELS ARE TO BE GALVANIZED. FOR OPENINGS IN EXISTING MASONRY WALLS SEE TYPICAL LINTEL SCHEDULE.

2. ALL CONCRETE MASONRY AND BRICK LINTELS SHALL HAVE 12" (MIN) END BEARING UNLESS OTHERWISE NOTED.

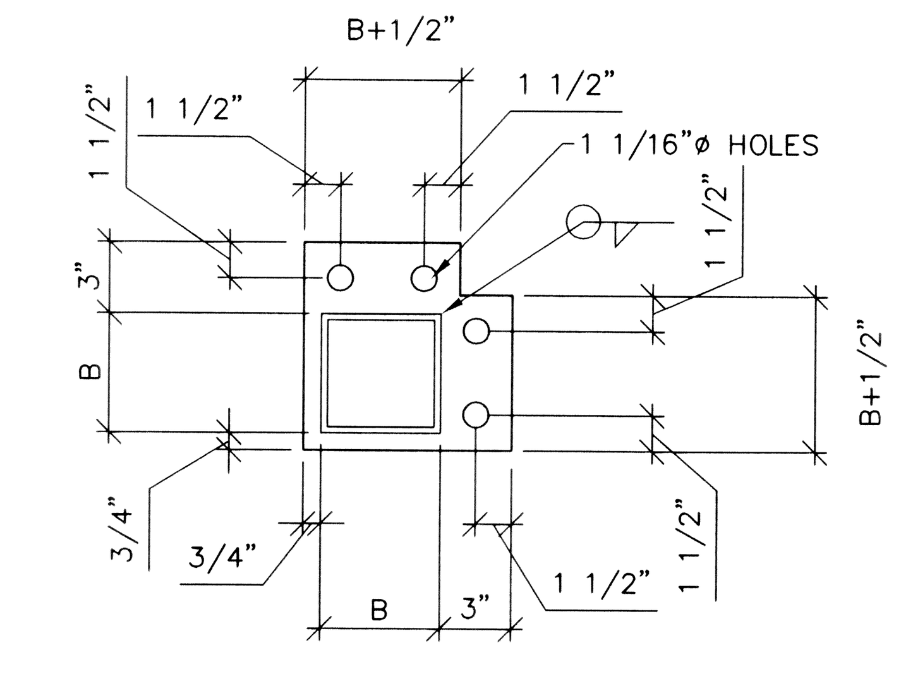
A4 MASONRY NOTES



TYPE "1" BASE PLATE



TYPE "2" BASE PLATE



TYPE "3" BASE PLATE

BASEPLATE THICKNESS:

A = 1/2"
B = 5/8"
C = 3/4"
D = 7/8"
E = 1"

NOTE:
PROVIDE (4) 3/4"ø ANCHOR BOLTS W/9" EMBEDMENT AND A 3" LEG. TYP. FOR EACH BASE PLATE.

E7 BASE PLATES

1. ALL WORK SHALL BE DONE IN COMPLIANCE WITH THE IBC 2003.
2. ALL WORK SHALL BE DONE IN AN ORDERLY AND PROFESSIONAL MANNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK TO BE DONE BY SUBCONTRACTORS, LOCAL AUTHORITIES, STATE AGENCIES AND/OR UTILITY COMPANIES WHICH MAY HAVE JURISDICTION OVER THIS PROJECT.
3. ALL UTILITY EXTENSIONS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH STATE AND LOCAL CODES OR AS INDICATED BY THE SPECIFICATIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY EXISTING ITEMS DAMAGED BY NEW CONSTRUCTION, AND FOR ANY INCIDENTAL REPAIRS OF EXISTING FINISHED SURFACES DISTURBED BY NEW CONSTRUCTION; SUCH REPAIRS SHALL MATCH EXISTING TO THE OWNER'S SATISFACTION.
5. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING, HANDLING, AND STORAGE OF ALL ITEMS/MATERIALS TO REMAIN THE PROPERTY OF THE OWNER WITH THE OWNER'S REPRESENTATIVE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS AND ALL TEMPORARY SHORING, PRECAUTIONS DURING BUILDING OPERATIONS, PROTECTION OF PUBLIC AND WORKERS, REMOVAL OF WASTE MATERIAL, PROTECTION OF ADJACENT PROPERTY, PROTECTION OF HAZARDOUS OPENINGS, SAFETY PRECAUTIONS, AND SANITARY PROVISIONS OF EMPLOYEES AND SUBCONTRACTORS AS REQUIRED FOR THE DURATION OF THE CONTRACT.

D7 GENERAL NOTES

±	PLUS OR MINUS
AFF	ABOVE FINISH FLOOR
ADD	ADDENDUM
ALUM	ALUMINUM
ALT	ALTERNATE
ACI	AMERICAN CONCRETE INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
ANC	ANCHOR (age)
AB	ANCHOR BOLT
L	ANGLE
ARCH	ARCHITECTURAL
@	AT
BPL	BEARING PLATE
Fb	BENDING STRESS
BM	BENCHMARK
BLKG	BLOCKING
BW	BOTH WAYS
BOT	BOTTOM
BOF	BOTTOM OF FOOTING
BOW	BOTTOM OF WALL
BLDG	BUILDING
CANT	CANTILEVER
CEMT	CEMENT (itious)
CHAMF	CHAMFER
CLR	CLEAR(ance)
COL	COLUMN
CONC	CONCRETE
F'c	CONCRETE COMPRESSIVE STRENGTH
CMU	CONCRETE MASONRY UNIT
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CJ	CONTROL JOINT
COORD	COORDINATE
DET'L	DETAIL
ø, DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
EA	EACH
EAF	EACH FACE
ELEV	ELEVATION
EQ	EQUAL
EXP	EXPANSION
EXP	EXPOSED
EXIST	EXISTING
EXT	EXTERIOR
EW	EACH WAY
Vu	FACTORED SHEAR
FF	FINISH FLOOR
FFE	FINISH FLOOR ELEVATION
FLR	FLOOR (ing)
FD	FLOOR DRAIN
FNDN	FOUNDATION
Ft	FOOT
FTG	FOOTING
FV	FIELD VERIFY
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GVL	GRAVEL
GT	GROUT
HDR	HEADER
HGT	HEIGHT
HORIZ	HORIZONTAL
IN	INCH
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MFG	MANUFACTURER
MAS	MASONRY
F'm	MASONRY COMPRESSIVE STRENGTH
MO	MASONRY OPENING
MTL	MATERIAL (s)
MAX	MAXIMUM
MTL	METAL
MIN	MINIMUM
mm	MILLIMETER
MISC	MISCELLANEOUS
E	MODULUS OF ELASTICITY
NTS	NOT TO SCALE
#, No.	NUMBER
OC	ON CENTER
OPNG	OPENING
PERF	PERFORATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PL, PL	PLATE
PWD	PLYWOOD
PCF	POUNDS PER CUBIC FOOT
PLF	POUNDS PER LINEAL FOOT
PT	PRESSURE–TREATED
PSC	PRESTRESSED CONCRETE
RAD	RADIUS
REINF	REINFORCE (ing), (ment)
REV	REVISION (s), (ed)
R	RISER
RO	ROUGH OPENING
SCH	SCHEDULE
SEC	SECTION
Fv	SHEAR STRESS
SHTH	SHEATHING
SIM	SIMILAR
SPEC	SPECIFICATION (s)
SQ	SQUARE
STD	STANDARD
STL	STEEL
SJI	STEEL JOIST INSTITUTE
STRUCT	STRUCTURAL
THK	THICK(ness)
TOM	TOP OF MASONRY
TOP	TOP OF PLATE
TSL	TOP OF SLAB
TST	TOP OF STEEL
TOBS	TOP OF BRICK SHELF
TOW	TOP OF WALL
TYP	TYPICAL
UC	UNDERCUT
VBA	VAPOR BARRIER
VERT	VERTICAL
VJ	VERTICAL JOINT
WTW	WALL TO WALL
WS	WATERSTOP
WWM	WELDED WIRE MESH
WO	WITHOUT
w/	WITH
WD	WOOD
Fy	YIELD STRESS

A7 ABBREVIATIONS

STATE OF MAINE
WILLIAM P FAUCHER
#7133
REGISTERED PROFESSIONAL ENGINEER

COLUMN SCHEDULE	
TAG	COLUMN SIZE
C–1	HSS 5x5x5/16
C–2	HSS 6x6x5/16
C–3	HSS 4x4x1/4

D9 COLUMN SCHEDULE

BEARING PLATE SCHEDULE	
TAG	SIZE
BP–1	7 1/2"x1/2"x1'–0"

C9 BEARING PLATE SCHEDULE

LEGEND

⊠	FLOOR DRAIN – COORDINATE LOCATION w/PLUMBING PLANS
⬚	EXTENT OF CONCRETE FLOOR TO BE REMOVED/REPALCED
(A)	COLUMN GRID
▶ M= k–ft	MOMENT CONNECTION
(X'–X")	TOP OF STEEL ELEVATION
X/S2, 1/S3.1	SECTION SYMBOL
———	BAR JOIST
—— – – ——	STEEL BEAM
– – – – – –	BRIDGING
I ■ ●	STEEL COLUMN
□	BEARING PLATE
▒	CMU WALL
▭	LIMITS OF DRIFTING SNOW
—§—	CONTROL JOINT
←	DIRECTION OF SLOPE
1/4	WELD SYMBOL

A9 LEGEND

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PROJECT:
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RENOVATIONS AND ADDITIONS
PORTLAND, MAINE 04101

DRAWING:
STRUCTURAL NOTES

SCALE: AS NOTED
CAD FILE: 03066S.DWG
DATE: 01 APRIL 2005

REVISIONS:

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