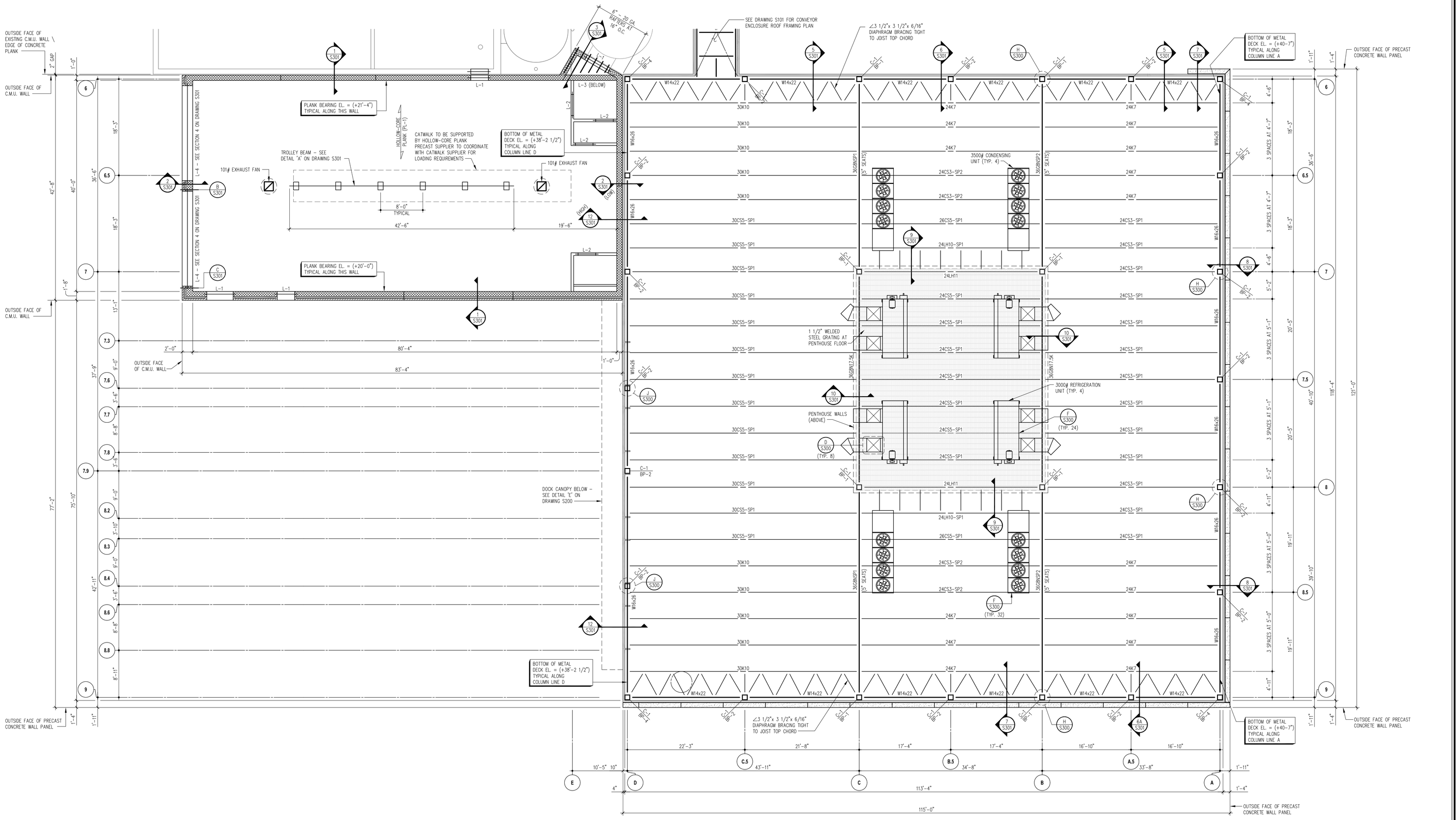


ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

PLAN NOTES:
1. SEE DRAWING S101 FOR SPECIAL JOIST DIAGRAMS.

STRUCTURAL NOTES

1. STEEL:
   a. SEE SPECIFICATIONS FOR ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL UNLESS NOTED OTHERWISE.
2. JOISTS:
   a. EXTEND BOTTOM CHORD OF ALL COLUMN TIE JOISTS. ALL COLUMN TIE JOISTS TO HAVE (2) 1/2" DIA. BOLTS EACH END FOR K-SERIES JOISTS AND (2) 3/4" DIA. BOLTS EACH END FOR LH-SERIES JOISTS.
   b. SEE SPECIFICATIONS FOR STEEL JOISTS.
   c. ALL BRIDGING SHALL BE DIAGONAL. BRIDGING SPACING AND MAX. L/R RATIOS SHALL BE PER SJI.
3. CONNECTIONS:
   a. SEE SPECIFICATIONS FOR ALL WELDED AND BOLTED CONNECTIONS.
4. ROOF DECK:
   a. DECK SHALL BE 1 1/2" DEEP, TYPE 'B', 22 GAUGE, GALVANIZED STEEL DECK. DECK TO BE CONTINUOUS OVER THREE OR MORE SPANS.
   b. DECK SHALL BE ATTACHED BY 5/8" DIA. PUDDLE WELDS AT 6" O.C. AT ALL END LAPS AND 12" O.C. OVER ALL INTERMEDIATE SUPPORTS. SIDE LAPS TO BE FASTENED TOGETHER BETWEEN SUPPORTS USING 3 #10 SHEET METAL SCREWS, EQUALLY SPACED.
   c. AT PERIMETER MEMBERS ORIENTED PARALLEL TO DECK, SECURE WITH 5/8" DIA. PUDDLE WELDS AT 6" O.C.
   d. TOUCH-UP WELDS AND DAMAGED PAINT SURFACES WITH PAINT WHICH IS COMPATIBLE WITH DECK FINISH.
5. FLOOR DECK:
   a. NON-COMPOSITE FLOOR DECK AT MEZZANINE (RECEIVING BAY) SHALL BE 4" THICK NORMAL WEIGHT CONCRETE SLAB (TOTAL THICKNESS) OVER 1.5C24 GA. GALVANIZED DECK, AS MANUFACTURED BY VULCRAFT OR EQUAL. REINFORCE SLAB WITH 4x4 W2.9xW2.9 W.W.F. FURNISH IN FLAT SHEETS.
6. FLOOR GRATING:
   a. SEE SPECIFICATIONS FOR SIZE AND ATTACHMENT OF OPEN METAL GRATING WHERE SHOWN ON PLAN.
7. PRECAST WALL PANELS:
   a. REFER TO BUILDING DRAWINGS FOR PANEL PROFILES, ELEVATIONS, AND FINISHES.
   b. WALL PANELS SHALL NOT EXCEED 12" THICK TOTAL (INCLUDING FACE BRICK) AND BE DESIGNED TO MEET CODE REQUIREMENTS AND ALL PERTINENT DESIGN LOADS NOTED IN SECTION 11 BELOW.
   c. LATERAL DEFLECTION OF THE PANEL UNDER WIND LOADING SHALL NOT EXCEED THE BUILDING HEIGHT DIVIDED BY 400 (H/400).
   d. PIN CONNECTIONS HAVE BEEN ASSUMED AT ROOF AND FOUNDATION LEVELS FOR DESIGN OF THE REMAINING STRUCTURE. NO BENDING MOMENTS FROM THE WALL PANEL WILL BE PERMITTED AT THE ROOF AND FOUNDATION LEVEL.
8. PRECAST HOLLOW-CORE PLANK:
   a. CONCRETE PLANK MANUFACTURER SHALL SUBMIT TYPICAL OPENING DETAILS WITH SHOP DRAWINGS FOR ENGINEERS REVIEW. COORDINATE OPENINGS IN PLANK BETWEEN TRADES AND WITH EQUIPMENT.
   b. SLAB TYPE PC-1: 12" THICK PRESTRESSED PRECAST CONCRETE PLANK. FLAT ROOF SNOW LOAD = 42 PSF + DRIFT
   c. PLANKS TO BE DESIGNED TO MEET CODE REQUIREMENTS AND ALL PERTINENT DESIGN LOADS IN SECTION 11 BELOW.
   d. DEFLECTION OF THE PLANKS TO BE LIMITED TO THE SPAN DIVIDED BY 360 (L/360) FOR LIVE LOADS AND L/240 FOR TOTAL LOAD.
9. LIGHT GAUGE METAL FRAMING
   a. ALL LIGHT GAUGE METAL FRAMING MEMBERS SHALL BE DESIGNED, FABRICATED AND ERECTED IN COMPLIANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".
   b. MEMBERS SHALL BE THE MANUFACTURER'S STANDARD C-SHAPED STUDS/JOISTS OF THE SIZE AND GAUGE INDICATED. ALL MEMBERS SHALL HAVE A MINIMUM FLANGE WIDTH OF 1 5/8" WITH A RETURN LIP OF 1/2" AND MEET OR EXCEED THE STRUCTURAL PROPERTIES PER "CLARK STEEL FRAMING SYSTEMS".
   c. ALL FRAMING MEMBERS SHALL BE GALVANIZED WITH A G-60 COATING TO COMPLY WITH ASTM A653.
   d. STEEL FOR 16 GAUGE AND LIGHTER SECTIONS SHALL BE MINIMUM Fy=33 KSI.

STRUCTURAL NOTES CONTINUED

   e. THE GAUGE OF ALL TRACKS AND OTHER MISCELLANEOUS SECTIONS SHALL BE NO LIGHTER THAN THE FRAMING BEING CONNECTED. CONNECTIONS MAY BE BY WELDS OR SCREW FASTENERS, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
   f. ALL WELDS SHALL COMPLY WITH ANSI/AWS D1.3-89. WELDING RODS TO BE 3/32" OR 1/8", AWS TYPE 6013 AND 7014.
   g. PROVIDE AND INSTALL BRIDGING IN COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MAXIMUM SPACING NOT TO EXCEED 7'-0". BRIDGING SHALL BE INSTALLED PRIOR TO THE ADDITION OF ANY LOADING.
   h. PROVIDE WEB STIFFENERS AT JOIST AND RAFTER BEARINGS, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND WHERE NOTED ON PLANS.
   i. PROVIDE THE MANUFACTURER'S STANDARD TRACK, CLIP ANGLES, BRACING, REINFORCEMENTS, FASTENERS AND ACCESSORIES, AS RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION INDICATED AND AS NEEDED TO PROVIDE A COMPLETE FRAMING SYSTEM. UNLESS NOTED OTHERWISE, INSTALL THE METAL FRAMING SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
   k. SUBMIT SHOP DRAWINGS FOR MEMBERS NOT SHOWN ON THE STRUCTURAL DRAWINGS. THE CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MAINE. SUPPLIER SHALL DETERMINE ALL DETAILS AND ATTACHMENTS FOR A COMPLETE SYSTEM.
   l. COMPLETED SHOP DRAWINGS FOR THE WORK SHALL INCLUDE, AS A MINIMUM, TYPE, SIZE AND GAUGE OF MEMBERS, SPACING, AND CONNECTION DETAILS..
10. ELEVATION:
   a. TOP OF ALL STEEL (BOTTOM OF METAL DECK) NOTED THUS BOT-07 IS MEASURED FROM FINISHED FLOOR ELEVATION 0'-0". REFERENCE SITE ELEVATION (29.42'). SLOPE ROOF UNIFORMLY BETWEEN ELEVATIONS NOTED.
11. DESIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE BOCA NATIONAL BUILDING CODE, 1999 EDITION.
   a. DESIGN DEAD LOADS: RECEIVING BAY ROOF ..... 78 PSF
      COOLER ROOF ..... 20 PSF
      PENTHOUSE ROOF ..... 20 PSF
      MEZZANINE FLOOR (RECEIVING BAY) ..... 65 PSF
   b. DESIGN LIVE LOADS: ROOF ..... 20 PSF
      PENTHOUSE FLOOR ..... 100 PSF
      PRODUCT ACCUMULATION ZONE ..... 250 PSF
      MEZZANINE FLOOR (RECEIVING BAY) ..... 80 PSF
   c. SNOW LOAD: GROUND SNOW LOAD,P_g ..... 60 PSF
      FLAT-ROOF SNOW LOAD, P_f ..... 46 PSF (COOLER AND PENTHOUSE)
      ..... 42 PSF (RECEIVING BAY)
      SNOW EXPOSURE FACTOR, C_e 1.0
      SNOW LOAD IMPORTANCE FACTOR, I 1.0
      THERMAL FACTOR, C_t ..... 1.0 (RECEIVING BAY)
      ..... 1.1 (COOLER AND PENTHOUSE)

STRUCTURAL NOTES CONTINUED

   d. WIND LOAD: (ASCE 7-95) BASIC WIND SPEED (3 SECOND GUST), V ..... 100 MPH
      WIND IMPORTANCE FACTOR, I 1.0
      WIND EXPOSURE ..... 'B'
      INTERNAL PRESSURE COEFFICIENT ..... ±0.18
      WIND DESIGN PRESSURE (MWFRS)

ZONE	NET PRESSURE (PSF)	
	INT +	INT −
ROOF	−17.6	−10.6
LEEWARD WALL	−11.2	−4.2
SIDE WALLS	−14.5	−7.5
WINDWARD WALLS	10.0	17.1

      NET UPLIFT (COOLER ROOF FRAMING) ..... 21 PSF
   e. DESIGN SEISMIC LOAD:
      PEAK VELOCITY RELATED ACCELERATION (A_v) 0.11
      PEAK ACCELERATION (A_a) 0.11
      SEISMIC HAZARD EXPOSURE GROUP II
      SEISMIC PERFORMANCE CATEGORY C
      SOIL PROFILE TYPE (S) 1.2
      BASIC STRUCTURAL SYSTEM AND SEISMIC RESISTING SYSTEM
      RECEIVING BAY ..... LOAD BEARING WALL SYSTEM
      ..... REINFORCED MASONRY SHEAR WALLS
      ..... R = 3 1/2 Cd = 3
      COOLER ..... BUILDING FRAME SYSTEM
      ..... CONCENTRICALLY BRACED FRAMES
      ..... R = 5 Cd = 4 1/2
      ANALYSIS PROCEDURE ..... EQUIVALENT LATERAL FORCE
12. SHOP DRAWINGS:
   a. SEE SPECIFICATIONS FOR SHOP DRAWING PROCEDURES.
13. PAINT:
   a. PRIME COAT ALL STRUCTURAL STEEL, STEEL JOISTS, JOIST GIRDERS AND MISCELLANEOUS STEEL WITH ONE SHOP COAT AND ONE TOUCH-UP COAT OF GREY PRIMER.
   b. SEE SPECIFICATIONS FOR FINISH COAT IF REQUIRED.
14. LATERAL STABILITY FOR THE BUILDING IS PROVIDED BY THE ROOF DIAPHRAGM, MASONRY SHEAR WALLS, AND BRACED FRAMES. CONTRACTOR TO PROVIDE TEMPORARY SHORING, BRACING AND SUPPORTS UNTIL THE NEW PRIMARY STRUCTURAL COMPONENTS HAVE BEEN INSTALLED, CURED AND CONNECTED SO AS TO PROVIDE THE PERMANENT SHORING, BRACING AND SUPPORT.
15. PLUMBINESS:
   a. THE STEEL STRUCTURE SHALL NOT EXCEED 1/2" OUT OF PLUMB IN EITHER DIRECTION FROM TOP TO BOTTOM OVERALL. THE CONTRACTOR SHALL PROVIDE A SURVEYOR TO VERIFY PLUMBNESS JUST PRIOR TO ERECTION OF EXTERIOR CONCRETE WALL PANELS.

MASONRY NOTES

1. SEE SPECIFICATIONS FOR MATERIAL AND CONSTRUCTION OF CONCRETE MASONRY UNITS, MORTAR AND CONTROL JOINTS.
2. SEE SPECIFICATIONS FOR JOINT REINFORCING AND WALL TIES IF REQUIRED.
3. BLOCK TO BE FILLED SHALL HAVE CELLS WITH WEBS IN ALIGNMENT IN COMPLETED WALL. (3-CELL OR 2-CELL SQUARE-END BLOCK).
4. PROVIDE PIPE SLEEVES OF APPROPRIATE SIZE AND MATERIAL FOR ALL PENETRATIONS PASSING THROUGH MASONRY WALLS. INCLUDE ANY MISCELLANEOUS EMBEDDED ITEMS FOR ALL TRADES WHICH MUST BE SET IN MASONRY WALLS AS SHOWN ON DRAWINGS.
5. LINTELS:
   a. ALL OPENINGS IN MASONRY WALLS (OPENINGS FOR DOORS, WINDOWS, MECHANICAL TRADES, ETC.) SHALL BE PROVIDED WITH LINTEL.
   b. ALL LINTELS SHALL HAVE 8" MINIMUM BEARING EACH END AND SET IN A FULL BED OF MORTAR IN A FILLED OR SOLID BLOCK.
   c. LINTELS BEARING AT CONTROL JOINTS IN MASONRY SHALL BE WRAPPED WITH PAPER AT THE CONTROL JOINT.
   d. CONTRACTOR SHALL SHORE ALL LINTELS TO PREVENT ROTATION DURING CONSTRUCTION, AND PAY PARTICULAR ATTENTION TO ECCENTRICALLY LOADED LINTELS.
   e. LINTELS SHALL BE ONE OF THE FOLLOWING UNLESS OTHERWISE SHOWN:

L-1 OPENINGS - LESS THAN 6'-0" WIDE:
12" WIDE x 8" DEEP BOND BEAM WITH (2) #5 BOTTOM
SEE BRICK LINTEL SCHEDULE ON DRAWING S101 FOR STEEL ANGLE

L-2 OPENINGS - LESS THAN 6'-0" WIDE:
8" WIDE x 8" DEEP BOND BEAM WITH (2) #5 BOTTOM

L-3 OPENINGS - GREATER THAN 6'-0" WIDE AND LESS THAN 11'-0" WIDE:
12" WIDE x 16" DEEP BOND BEAM WITH (2) #6 BOTTOM
SEE BRICK LINTEL SCHEDULE ON DRAWING S101 FOR STEEL ANGLE

COLUMN SCHEDULE

MARK	COLUMN SIZE
C-1	TS 12"x 12"x 3/8"
C-2	TS 12"x 4"x 1/4"
C-3	TS 6"x 6"x 1/4"

MASONRY WALL SCHEDULE

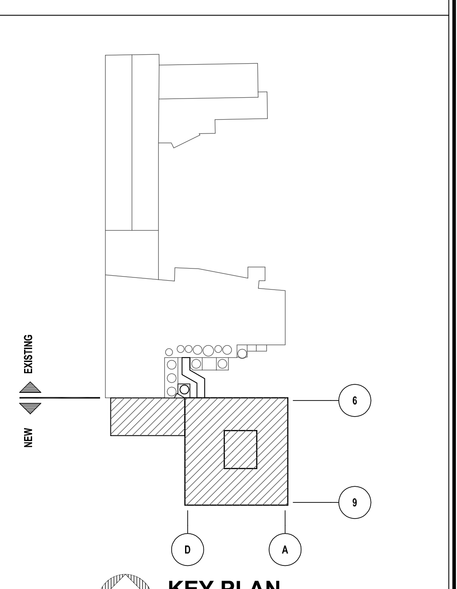
WALL (NOMINAL WIDTH)	VERTICAL REINFORCING
RECEIVING BAY EXTERIOR WALLS (12")	#5 AT 48" O.C. EACH FACE
RECEIVING BAY INTERIOR WALLS (6" AND 8")	#4 AT 48" O.C. (CENTERED)
ALCOVE/FILLER ROOM INTERIOR WALL (6")	#4 AT 48" O.C. (CENTERED)
C.M.U. FACADE AT EXISTING HIGH RISE (8")	#4 AT 24" O.C. (CENTERED)

NOTE: MASONRY CELLS WITH REINFORCING TO BE GROUTED SOLID FOR THE FULL HEIGHT OF THE WALL.

BASE PLATE SCHEDULE

SEE DRAWING S200 FOR BASE PLATE DETAILS

MARK	PLATE SIZE	THICKNESS	ANCHOR RODS
BP-1	18"x 13"	1"	(4) - 3/4" DIA.
BP-2	18"x 13"	3/4"	(4) - 3/4" DIA.
BP-3	12"x 12"	3/4"	(4) - 3/4" DIA.
BP-4	15"x 15"	3/4"	(4) - 3/4" DIA.
BP-5	9"x 9"	3/4"	(4) - 3/4" DIA.
BP-6	10"x 12"	3/4"	(4) - 3/4" DIA.
BP-7	18"x 12"	3/4"	(4) - 3/4" DIA.



KEY PLAN

N.T.S.

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PROJECT NUMBER: 0167.00

DATE: MARCH 1, 2004

DRAWING TITLE: ROOF FRAMING PLAN

DRAWING NUMBER: S100

REVISION: 0

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