15-0182 Renovations for Nissen Building
Portland, ME

DESIGN LIVE LOADS: 2009 IBC/MUEBC, U.O.N.

* Snow	80 psf(Pg)
* Wind	100 mph, exp B, 3 second gust
* Main Level Floors	100 psf
* Upper Level	80 psf

CONCRETE AND REINFORCEMENT:

* Concrete shall conform to applicable provisions of ACI-301 and 318. Minimum 28 day compressive strength (F'c) as follows:
  Walls/Grade Beams: 3,000 psi w/4-6% air entrainment
  Slabs: 4,500 psi w/4-6% air entrainment and fiber mesh
* Cement Type: I/II
* Deformed reinforcement: ASTM A615 grade 60, except bars specified to be field-bent, stirrups, and ties which shall be grade 40.
* Fibremesh: 100% virgin polypropylene, fibrillated fibers as manufactured by Fibremesh Co. per ASTM C-1116 type 111 4.1.3 and ASTM C-1116 performance level one, 1.5 lb. per cubic yard.
* Welded Wire Fabric (WWF): ASTM A185. See also plan.
* Typical minimum foundation reinforcing: 2 #6 top and bottom, (except as noted) continuous at corners and steps.
* Reinforcement shall be fabricated and placed per ACI Manual of Standard Practice (ACI-315). At splices, lap bars 50 diameters unless noted otherwise.
* Minimum 2 #6 around all four sides of all openings, extend min. 2'-0 beyond openings.
* Concrete cover over reinforcing: $1^1/_2$" for concrete placed against forms; 3" for concrete placed against earth. See also drawings.
* In continuous members, splice top bars at mid span and bottom bars over supports.
* Keep reinforcement clean and free of dirt, oil, and scale. Oil forms prior to placing reinforcement.

STRUCTURAL STEEL:

* Structural Beams:	ASTM A992
* Angles, misc:	ASTM A36
* Anchor Bolts:	ASTM A307 or A36.

* Expansion 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. 3/16" fillet welds, unless noted otherwise.
* Except as noted, framed beam connections shall be detailed to develop 0.6 x Allowable Uniform Load values tabulated in the 9th Edition AISC Manual, Pp. 2-27 and following.
* All beams shall have full depth web stiffeners each side of webs above and below columns. (3" or as noted)
* Attach wood nailer plates to beams with 1/2" diameter machine or carriage bolts at maximum 16" o.c., or 3/8" diameter bolts at 16" with glued contact face, or 5/32" diameter powder actuated drive pins at 12" o.c., U.O.N.

MASONRY:

* Concrete masonry units (CMU) ASTM C90-N-1. Minimum compressive strength 1,900 psi based on average net area. **USE UL LISTED FIRE RATED UNITS, SEE ARCH.**
* Mortar: Type "S" or "N".
* Grout: 2000 psi at 28 days. Vibrate to consolidate.
* Reinforcement: Standard Dur-O-Wall at 16" o.c. in CMU walls with 16" laps.

Deformed reinforcement shall be ASTM A615 as specified for concrete unless otherwise noted. Laps shall be min. 48 diameters.
If High Lift Grouting is used, cleanout holes shall be provided and bar-positioners shall be located at bottom and at 120 diameter maximum spacing.
Horizontal deformed reinforcement shall be placed in precut knock-out bond beam blocks.
* MSJC Level One Verifications Required through submittals

LOOSE LINTELS:

* Minimum lintel except as noted, one angle for each 4" of wall thickness to bear 6" each end:

Openings to 4'-0	L 3-1/2 x 3-1/2 x 1/4
4'-0 to 5'-4	L 5 x 3-1/2 x 1/4
5'-5 to 6'-6	L 6 x 3-1/2 x 5/16

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 foundation 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.
* All slabs on grade shall be separated from adjacent structural and finish elements to allow free movement of the slab, unless specifically shown and noted otherwise.

SHOP DRAWINGS

Fabricator and / or supplier of rebar, structural steel, shall submit shop and erection drawings for architect and engineer review. Submit one reproducible and two prints for each drawing. Allow five working days for review.

ABBREVIATIONS KEY

AB	Anchor Rod (Bolt)	EF	Each Face	MACH	Machine	SC	Slip Critical
ADDL	Additional	EJ	Expansion Joint	MASY	Masonry	SCH	Schedule
ADJ	Adjustable	ELEV	Elevation	MATL	Material	SDST	Self Drilling Self Tapping
AFF	Above Finished Floor	ELEC	Electric (Electrical)	MAX	Maximum	SECT	Section
ALT	Alternate	ENGR	Engineer	MB	Machine bolt	SF	Square Feet
AMT	Amount	EQ	Equal	MECH	Mechanical	SHT	Sheet
ANCH	Anchor, Anchorage	EQUIP	Equipment	MEZZ	Mezzanine	SHTG	Sheathing
APPROX	Approximate	EQUIV	Equivalent	MFR	Manufacture, -er, -ed	SIM	Similar
ARCH	Architect, -ural	ES	Each Side	MIN	Minimum	SLH	Short Leg Horizontal
ATR	All Thread Rod	EST	Estimate	ML	Microllam (Trus-joist brand LVL)	SLV	Short Leg Vertical
AVG	Average	E-W	East to West			SOG	Slab on Grade
BC	Bottom of Concrete	EXC	Excavate	MO	Masonry Opening	SP	Spaces
BL	Brick Ledge	EXP	Expansion	MTL	Metal	SPEC	Specifications
BLK	Block	EXT	Exterior	NF	Near Face	SQ	Square
BLKG	Blocking	FND	Foundation	NIC	Not In Contract	ST	Snug Tight
BM	Beam	FF	Far Face, Finished Floor	NS	Near Side	STD	Standard
BOT	Bottom	F-F	Face to Face	N-S	North to South	STIFF	Stiffener
BRG	Bearing	FIG	Figure	NTS	Not to Scale	STL	Steel
BW	Bottom of Wall	FL	Flush	OCJ	OSHA Column Joist	STRUCT	Structure, -al
CB	Counterbore	FLG	Flange	OD	Outside Diameter	SUPT	Support
CF	Cubic Foot	FLR	Floor	OF	Outside Face	SY	Square Yard
CG	Center of Gravity	FO	Face of	OH	Opposite Hand	SYM	Symmetrical
CIP	Cast in Place	FP	Full Penetration	OPNG	Opening	T&B	Top and Bottom
CJ	Construction Joint (Control Joint)	FS	Far Side	OPP	Opposite	T&G	Tongue and Groove
		FTG	Footing	OSB	Oriented Strand Board	TB	Top of Beam
CLG	Ceiling	GA	Gage (Gauge)	PAF	Powder Actuated Fast'nr	TC	Top of Concrete
CLR	Clear	GALV	Galvanized	PC	Precast	TD	Top of Deck
CM	Construction Manager (Management)	GC	General Contractor	PCF	Pounds Per Cubic Foot	THD	Thread
		GEN	General	PEN	Penetration	THK	Thick, -ness
CMU	Concrete Masonry Unit	GL	Glue laminated (Glulam)	PERP	Perpendicular	TJ	Top of Joist
COL	Column	GND	Ground	PL	Property Line	TL	Total Load
COM	Common	GR	Grade	PLF	Pounds per Linear Foot	TPG	Topping
COMB	Combination	GT	Girder Truss	PNL	Panel	TRANS	Transverse
CONC	Concrete	GYP BD	Gypsum Board	PP	Panel Point	TW	Top of Wall
CONN	Connection	HAS	Headed Anchor Stud	PS	Prestressed	TYP	Typical
CONT	Continue (Continuous)	HORIZ	Horizontal	PSF	Pounds per Square Foot	ULT	Ultimate
COORD	Coordinate, -tion	HT	Height	PSI	Pounds per Square Inch	UNO	Unless Noted Otherwise
CS	Countersink	ID	Inside Diameter	PSL	Parallel Strand Lumber (generic term)	VERT	Vertical
CTR	Center	IF	Inside Face			VIF	Verify in Field
CY	Cubic Yard	INT	Interior (Intermediate)	PT (1)	Post Tensioned	WA	Wedge Anchor
DAB	Deformed Anchor Bar	JB	Joist Bearing	PT (2)	Pressure Treated	WP	Work Point
DET	Detail	JST	Joist	PTN	Partition	WT	Weight
DEV	Develop	JT	Joint	PWD	Plywood	WWF	Welded Wire Fabric
DIAG	Diagonal	K	Kip (1,000 lbs.)	QTY	Quantity	XS	Extra Strong
DIM	Dimension	LD	Load	R	Radius	XSECT	Cross-section
DL	Dead Load	LL	Live Load	RE	Reference (refer to)	XXS	Double Extra Strong
DN	Down	LLH	Long Leg Horizontal	RECT	Rectangle		
DP	Drilled Pier	LLV	Long Leg Vertical	REINF	Reinforce, -ed, -ing	(E)	Existing
DT	Double Tee	LOC	Location	REQ	Required	(N)	New
DWG	Drawing	LSL	Laminated Strand Lumber (generic term)	REQMT	Requirement	(R)	Remove
DWL	Dowel			RET	Retaining		
EA	Each	LT	Light	RM	Room		
ECC	Eccentric	LVL	Laminated Veneer Lumber (generic term)	RMO	Rough Masonry Opening		
E-E	End to End			RO	Rough Opening		

Structural Drawing Index

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TYPICAL CONCRETE WALL INTERSECTIONS
N.T.S.

OPENING SIZE	LINTEL SIZE	JAMB ANCHORS	JAMB EXTENSION LENGTH	
LESS THAN 4'-0	C6 x 8.2	(2) 5 /8" x 18"	6"	5 / 8" x 8" @ 12"
4'-0 TO 8'-0	C8 x 11.5	(2) 5 /8 " x 18"	6"	5 / 8" x 8" @ 18"

NEW LINTEL INSTALLATION IN EXISTING BRICK
N.T.S.

STATE OF MAINE
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CHECKED BY:	ACJ
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GENERAL NOTES / INDEX

S1.0