16-0164
164 Middle Street
Portland, ME.

DESIGN LIVE LOADS: 2009 IBC/MUEBC, U.O.N.
- Snow 50 psf(Pg)
- Wind 90 mph, exp C, 3 second gust
- Floors 100 psf

FOUNDATION:
- Foundations are designed without an engineer's soil investigation. Foundation design criteria was assumed for purpose of foundation design and shall be confirmed by a soils engineer, at owner's expense, prior to construction. (This procedure may require revisions to foundation design, at additional expense to the owner, if soils engineer determines that such design criteria are inappropriate for this building site.)
- Maximum soil pressure assumed for design: 2,000 psf

FOUNDATION WALLS:
- Design lateral soil pressure (equivalent fluid pressure):
  Walls: 45 pcf.
- Backfill all retaining walls with free draining granular material except the top two feet.
- Slope perimeter grade away from building.
- Place concrete continuously without horizontal cold joints.

CONCRETE AND REINFORCEMENT:
- Concrete shall conform to applicable provisions of ACI-301 and 318.
  Minimum 28 day compressive strength (F'c)
  as follows:
  Footings : 3,000 psi
  Foundation Walls: 3,500 psi w/4-6% air entrainment
  Slabs: 4,500 psi w/4-6% air entrainment and fiber mesh, and W.W.F. per plan.
- 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 #4 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 #4 around all four sides of all openings, extend min. 2'-0 beyond openings.
- Concrete cover over reinforcing: 1½" 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.

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

COMPOSITE FLOOR DECKING:
- Galvanized composite floor decks shall be of the depth and gage specified on the drawings and shall conform to ASTM A653 SQ grade 50 (Fy = 50 PSI). Galvanized coating shall conform to ASTM A924 with coating designation G90.
- The composite steel floor deck shown on the drawings is the minimum required for unshored construction for the typical condition of two continuous spans or more unless shoring is specifically noted. The deck supplier shall increase the gage thickness or specify shoring, if necessary, for single span conditions that cannot be avoided.
- The deck gage and depth have been selected based on the wet weight of concrete and final design loads only. Construction materials may not be placed on bare metal deck.
- The final slab thickness shall be no less than indicated on the plans and the slab shall be finished to a level surface. Contractor shall provide additional concrete required to compensate for deflection of unshored beams and deck.
- See details for attachment of deck to supports and for side lap connections between supports.
- Deck shall be fabricated so that deck runs continuously over openings. The The openings in the deck shall not be cut until opening is needed(per OSHA).
- The contractor shall coordinate all trade requirements and confirm the size and location of all openings. Openings greater than 12", and as detailed, shall have steel framing supporting all edges. See typical framing details.
- Steel members supporting steel deck at the perimeter of the building shall be continuous, butt weld pieces where splices occur.

LIGHT GAUGE STRUCTURAL STEEL FRAMING:
Member forming shall conform to AISI Cold-Formed Steel Specifications.
All structural framing (studs, joists, track, runners, bracing, and bridging) shall be galvanized sheet steel conforming to ASTM A525, G-60.
Studs and joists 54 mils (16 gauge) and heavier shall be 50 ksi yield.
43 mils (18 gauge) and lighter shall be, 33 ksi yield.
Subcontractor shall provide bridging and blocking at a maximum of 6 foot spacing or as required for stability and stiffness of the final assembly wherever sheathing does not provide adequate bracing.
Supplier shall design required lintels and headers at openings where not specifically detailed.
Member sizes noted on drawings are in the new SSMA standard nomenclature:
(##d)(sd)(##w)-(##t)
(##d) Member Depth (inches.hundredths)
(sd) Style Designation (see Style Designation in table below)
(##w) Flange Width (inches.hundredths)
(##t) Material Thickness (mils) (see Mils vs equivalent Gauge in table below)

(sd) Style Designation	Member Type		(##t) Mils Thickness	Equivalent Gauge
S	Punched C-Section		18	25
J	Unpunched C-Section		27	22
T	Track		30	20 – Drywall
U	Channel		33	20 – Structural
F	Furring Channel		43	18
			54	16
			68	14
			97	12

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, CMU, steel, steel bar joists and metal decking 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.

SPECIAL INSPECTIONS AND REVIEWS:

All site soils related work and footing excavations prior to placing forms, as well as site drainage, shall be reviewed by geotechnical engineer.

All structural steel framing and welding shall be inspected by the designated special inspector.
All masonry construction shall be inspected by the designated special inspector.
All concrete construction shall be inspected by the designated special inspector.

Normal reviews by Local Building Department.

Duties and responsibilities of the special inspector shall be to observe and/or test the work assigned and outlined above for conformance with the approved construction documents. All discrepancies shall be brought to the immediate attention of the contractor for correction.

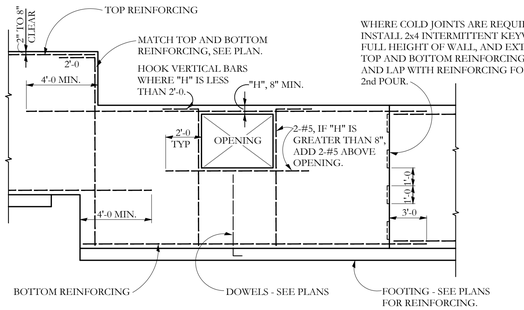
The special inspector shall furnish regular reports to the building official, the engineer and architect of record, and other designated persons. Progress reports for continuous inspection shall be furnished weekly. Individual reports of periodic inspections shall be furnished within one week of inspection dates. The reports shall note uncorrected deficiencies, correction of previously reported deficiencies, and changes to the approved construction documents authorized by engineer of record.

The special inspector shall submit a final signed report within 10 days of the final special inspection stating whether the work requiring special inspection was, to the best of the inspector's knowledge and belief, in conformance with the approved construction documents and the applicable workmanship provisions of the International Building Code. Work not in compliance shall be noted in the report.

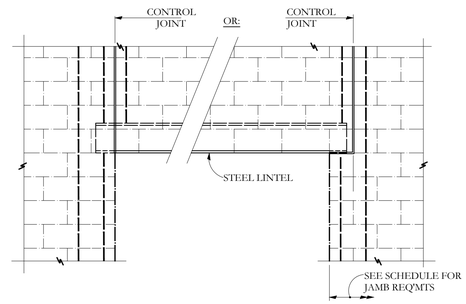
Special inspection firm shall be:
To be determined, Please contact S.I. Inc. if you would like to retain us to conduct special inspections coordination and or inspection services.

ABBREVIATIONS KEY

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

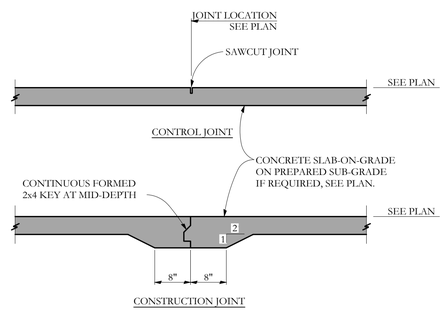


TYPICAL REINFORCING AT STEPS AND OPENINGS
NO SCALE

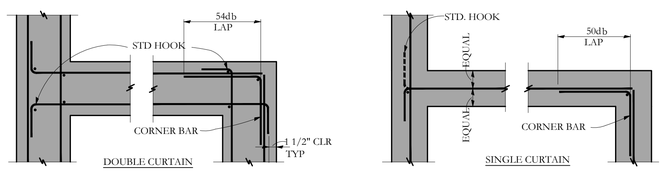


OPENING SIZE	LINTEL SIZE	GROUTED JAMB WIDTH
LESS TO 4'-0	L3-1/2" X 3-1/2" X 1/4"	8"
4'-0 TO 5'-4	L5" X 3-1/2" X 1/4"	8"
'5-5 TO 6'-6	L6" X 3-1/2" X 5/16"	1'-4
TYPICAL LINTEL SIZES UNLESS NOTED DIFFERENTLY ON PLAN		

TYPICAL LOOSE LINTEL INSTALLATION
NO SCALE



TYPICAL JOINTS AT INTERIOR SLAB-ON-GRADE
NO SCALE



TYPICAL CONCRETE WALL INTERSECTIONS
NO SCALE

Structural Drawing Index

PORT ▪ CITY ARCHITECTURE
65 NEWBURY STREET
PORTLAND, ME 04101
207.761.9000
info@portcityarch.com
WWW.PORTCITYARCH.COM

CONSULTANTS
Structural Integrity Consulting Engineers, Inc.
77 Oak Street
Portland, Maine 04101
(207) 774-4614
contact: Aaron C. Jones
aaron@structuralinteg.com

REVISIONS

No.	Date	Description

ALTERATIONS
164 Middle St.
Portland, ME

Project Number	16007
Date	Nov. 03, 2016
Drawn by	MKL
Checked by	

Sheet Name
GENERAL NOTES

S1.0

STATE OF MAINE
AARON C. JONES
No. 10968
LICENSED PROFESSIONAL ENGINEER
11/08/2016

Structural Integrity Consulting Engineers, Inc.
77 Oak Street
Portland, ME, 04101
p. 207-774-4614
f. 866-793-7835
www.structuralinteg.com

BUILD WITH CONFIDENCE

#16-0164

IF THIS SHEET IS NOT 24 X 36 IT IS A REDUCED SCALE PRINT - SCALE ACCORDINGLY
SCALE 0 1 2 3 1"=1'
SCALE 0 1 2 4 3/4"=1'
SCALE 0 1 2 6 1/2"=1'
SCALE 0 2 4 8 1/4"=1'
SCALE 0 5 10 20 1/8"=1'
SCALE 0 10 20 40 1/16"=1'