

**New Two-Family Dwelling**  
Danforth St.  
Portland, ME.

SI Job#: 16-0117

**GENERAL STRUCTURAL NOTES**

**DESIGN LIVE LOADS:** 2009 IBC, MUEBC

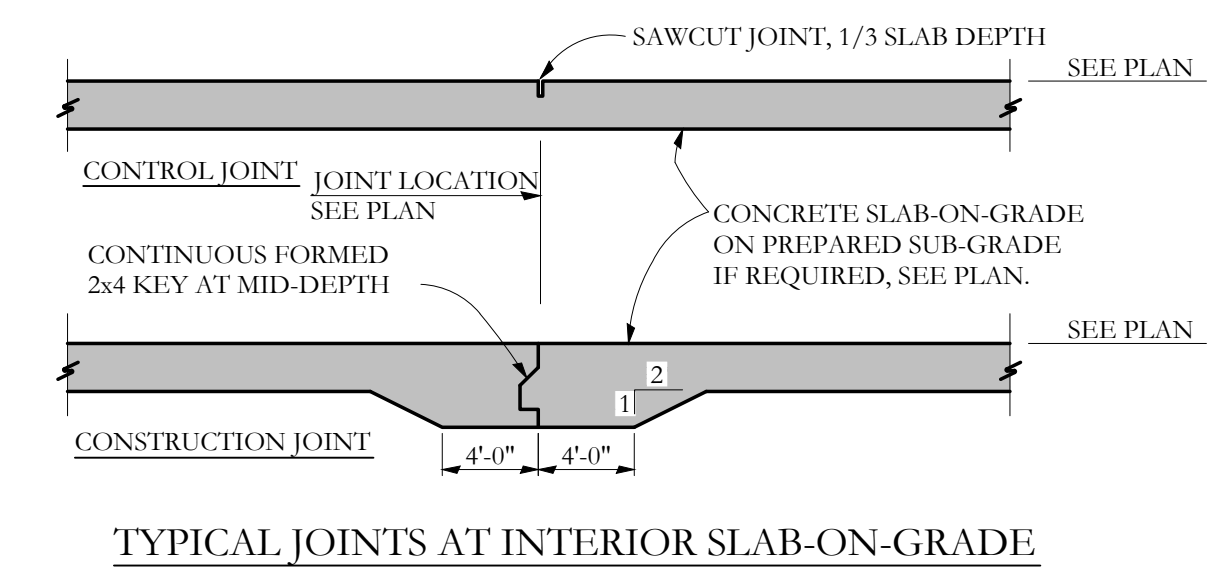
* Snow	60 psf (Pg)
* Wind	100 mph, exp B, 3 second gust
* Floor	40 psf

- FOUNDATION:**
- \* Refer to soils report # 16067, dated April 27, 2016, by Summit Geoenvironmental Services. Soils engineer shall verify soil conditions and types during excavation and prior to concrete placement.
  - \* Footings shall be placed on crushed stone, undisturbed natural soil or compacted fill tested and approved by soils engineer.
  - \* Allowable bearing pressure = 4,000 psf. Bear on soil approved by the Soils Engineer. -typ
  - \* Existing foundation walls are assumed acceptable for existing soil retainage and new building loads

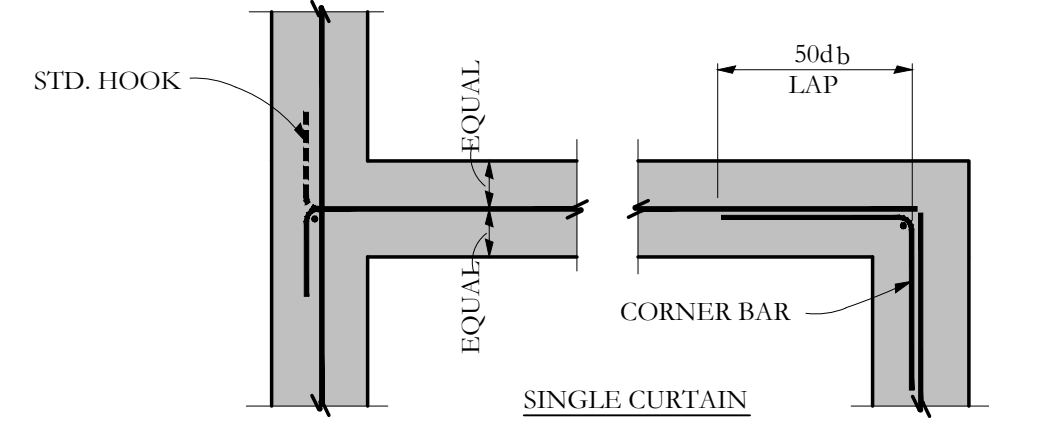
- FOUNDATION WALLS:**
- \* Design lateral soil pressure (equivalent fluid pressure):  
Walls: 50 pcf.
  - \* Backfill all retaining walls with free draining granular material except the top two feet.
  - \* Provide perimeter drain system with invert minimum of 6" below bottom of basement slab. Extend perimeter drain to daylight or to sump.
  - \* 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: 4,000 psi w/ 4-6% air entrainment  
Interior Slabs: 3,500 psi w/ fibermesh  
Exterior Slabs: 4,000 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.
  - \* Fibermesh: 100% virgin polypropylene, fibrillated fibers as manufactured by Fibermesh 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: 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.

- WOOD FRAMING:**
- \* Dimension Lumber is designed and shall be supplied using BASE VALUES Design Criteria.
  - \* SPF #2 and better (Maximum Moisture Content 19%) U.O.N.  
Plates: Sill plates: Pressure Treated SPF or Southern Pine.  
"Pressure treated lumber" shall be framing material of the specified species which has been pressure treated with a decay and insect resistant solution, meeting all current standards for wood in contact with concrete or earth.  
Sill plates in contact with masonry or concrete foundations, footings or slabs may be treated Timber Strand LSL (zinc borate treatment). Sodium borate treatment may also be acceptable for sill plate applications when protected from weather.  
Acceptable treatment mediums for wood in contact with earth or in exterior applications include ACQ-C and ACQ-D (Alkaline Copper Quaternary) and copper azole (CBA-A and CBA-B).  
DO NOT USE WOODS WHICH HAVE BEEN TREATED WITH AMMONIA BASED CARRIERS. All connectors shall meet the recommendations of the pressure treated wood manufacturer, but shall be not less than Hot Dipped Galvanized meeting requirements of ASTM A653, such as Simpson ZMAX (G185). All screws, nails and bolts shall match hangers and other connectors, and shall meet ASTM A123 for individual connectors, and ASTM A153 for fasteners.  
For durability, it is our recommendation that connectors used in exposed conditions with treated lumber be stainless steel.  
Do not mix galvanized and stainless products.  
Do not allow aluminum to contact treated wood.  
Top and Bottom Plates: SPF No 2 and better  
SPF U.O.N: 2 x 4 and 2 x 6 to 8'-0": stud grade  
2 x 4 over 8'-0": standard and better  
2 x 6 over 8'-0": No. 2 and better

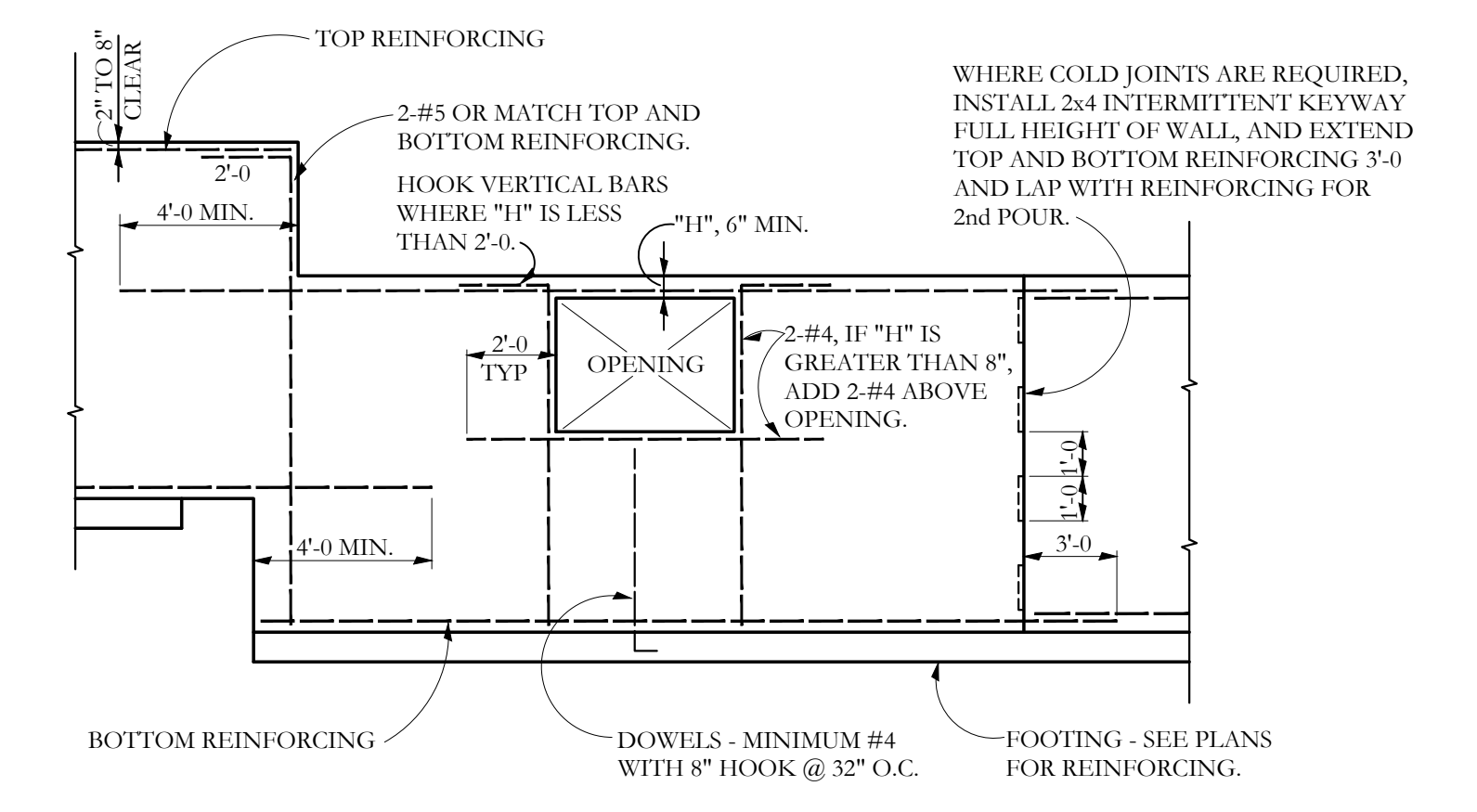


**TYPICAL JOINTS AT INTERIOR SLAB-ON-GRADE**



**TYPICAL CONCRETE WALL INTERSECTIONS**

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	SDEST	Self Drilling Self Tapping
AFE	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	SFT	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	Microlam (Trus-joist brand LVL)	SLV	Short Leg Vertical
AVG	Average	E-W	East to West	MO	Masonry Opening	SOG	Slab on Grade
BC	Bottom of Concrete	EXC	Excavate	MTL	Metal	SP	Spaces
BL	Brick Ledge	EXP	Expansion	NF	Near Face	SPEC	Specifications
BLK	Block	EXT	Exterior	NIC	Not In Contract	SQ	Square
BLKG	Blocking	FND	Foundation	NS	Near Side	ST	Snug Tight
BM	Beam	FF	Far Face, Finished Floor	N-S	North to South	STD	Standard
BOT	Bottom	F-F	Face to Face	NTS	Not to Scale	STIFF	Stiffener
BRG	Bearing	FIG	Figure	OJ	Opposite Hand	STL	Steel
BW	Bottom of Wall	FL	Flush	OPNG	Opening	STRUCT	Structure, -al
CB	Counterbore	FLG	Flange	OPP	Opposite	SUPT	Support
CF	Cubic Foot	FLR	Floor	OSB	Oriented Strand Board	SY	Square Yard
CG	Center of Gravity	FO	Face of	PAF	Powder Actuated Fast'nr	T&G	Tongue and Groove
CIP	Cast in Place	FP	Full Penetration	PC	Precast	TB	Top of Beam
CJ	Construction Joint (Control Joint)	FS	Far Side	PCF	Pounds Per Cubic Foot	TC	Top of Concrete
CLG	Ceiling	FTG	Footing	GEN	General Contractor	TD	Top of Deck
CLR	Clear	G	Gage (Gauge)	GL	Glue laminated (Gulam)	THD	Thread
CM	Construction Manager (Management)	GALV	Galvanized	GND	Ground	THK	Thick, -ness
CMU	Concrete Masonry Unit	GC	General Contractor	GR	Grade	TJ	Top of Joist
COL	Column	GT	Girder/Truss	CONN	Connection	TL	Total Load
COM	Common	GYP BD	Gypsum Board	CONT	Continue (Continuous)	PLF	Pounds per Linear Foot
COMB	Combination	HAS	Headed Anchor Stud	COORD	Coordinate, -ion	PNL	Panel
CONC	Concrete	HORIZ	Horizontal	CS	Countersink	PP	Panel Point
CONN	Connection	HFT	Height	CTR	Center	PS	Prestressed
CONT	Continue (Continuous)	ID	Inside Diameter	CY	Cubic Yard	PSF	Pounds per Square Foot
COORD	Coordinate, -ion	IF	Inside Face	DAB	Deformed Anchor Bar	PT (1)	Post Tensioned
CS	Countersink	INT	Interior (Intermediate)	DET	Detail	PT (2)	Pressure Treated
CTR	Center	JST	Joist	DEV	Develop	PTN	Partition
CY	Cubic Yard	IT	Joint	DIAG	Diagonal	PWD	Plywood
DAB	Deformed Anchor Bar	K	Kip (1,000 lbs.)	DIM	Dimension	QTY	Quantity
DET	Detail	LD	Load	DL	Dead Load	R	Radius
DEV	Develop	LL	Live Load	DN	Down	RE	Reference (refer to)
DIAG	Diagonal	LLH	Long Leg Horizontal	DP	Drilled Pier	RECT	Rectangle
DIM	Dimension	LLV	Long Leg Vertical	DT	Double Tee	REINF	Reinforce, -ed, -ing
DL	Dead Load	LOC	Location	DWG	Drawing	REQ	Required
DN	Down	LSL	Laminated Strand Lumber (generic term)	DWL	Dowel	REQMT	Requirement
DP	Drilled Pier	LT	Light	EA	Each	RET	Retaining
DT	Double Tee	LVL	Laminated Veneer Lumber (generic term)	ECC	Eccentric	RM	Room
DWG	Drawing	E-E	End to End	E-E	Eccentric	RMO	Rough Masonry Opening
DWL	Dowel			E-E	End to End	RO	Rough Opening



**TYPICAL REINFORCING AT STEPS AND OPENINGS**  
NO SCALE

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S-1.3	Second Floor/ Low Roof Framing Plan
S-1.4	Roof Framing Plan
S-2.1	Sections
S-2.2	Sections

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**PROJECT:**  
NEW TWO-FAMILY DWELLING

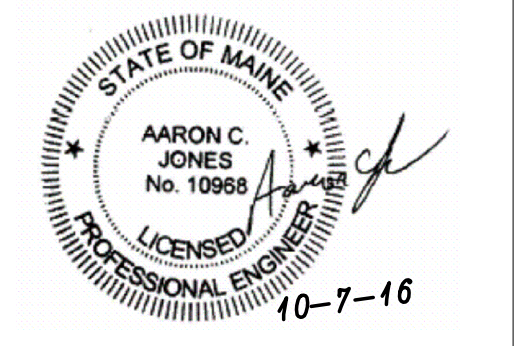
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DATE: 10/7/16  
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**GENERAL NOTES, ETC.**  
**S-1.0**