STRUCTURAL GENERAL NOTES

Riverside Self Storage Containers
Portland, ME

SI Job #: 16-0264

DESIGN LOADS: International Building Code; IBC 2009 Edition, except as noted
Occupancy Category I, Table 1604.5

Roofs:

Ground Snow,	Pg		60 psf (used for drifting calculations)
Sloped Roof Snow,	Ps		70 psf
Snow Exposure Factor	Ce	Table 1608.3.1	1.0
Snow importance Factor,	Is	Table 1604.5	1.0
Snow Thermal Factor,	Ct	Table 1608.3.2	1.0

Floors:
Storage 125 psf

Lateral
Wind ASCE 7-02 Simplified Method
3 Second Gust Velocity 100 mph
Importance Factor 0.87
Exposure C

Seismic ASCE 7-02 Equivalent Lateral Force Procedure
Design Category B
Soils Site Class D
Importance Factor 0.8
Response Modification Coefficient R=3, Steel Systems Not Specifically Detailed for Seismic Resistance

REINFORCED CONCRETE:
We encourage the use of blast furnace slag.
Design is based on "Building Code Requirements for Reinforced Concrete"(ACI 318). Concrete work shall conform to "Standard Specifications for Structural Concrete" (ACI 3019).
Structural concrete shall have the following properties:

Intended Use	f'c, psi 28day	Max W/C Ratio	Maximum Aggregate	Slump inches	Entrained Air Percent ±1.5%	Cement Type	Admixtures, Comments
footings	4,500	.45	¾" Stone	4	---	I/II	Fibermesh

Detailing, fabrication, and placement of reinforcing steel shall be in accordance with the Manual of Standard Practice for Detailing Reinforced Concrete Structures (ACI 315).
Welded wire fabric shall conform to ASTM A185.
Reinforcing bars shall conform to ASTM A615,
Grade 60,
except ties or bars shown to be field-bent, which shall be Grade 40.
Epoxy coated reinforcing bars shall conform to ASTM 775.
Zinc coated (galvanized) reinforcing bars shall conform to ASTM 767.
Bars to be welded shall conform to ASTM 706.
At splices, lap bars 50 diameters unless noted otherwise.
At corners and intersections, make horizontal bars continuous or provide matching corner bars.
Around openings in walls and slabs, provide 2-#5, extending 2'-0 beyond edge of opening.
In continuous members, splice top bars at mid-span and splice bottom bars over supports.
Provide intermittent shear keys at all construction joints and elsewhere as shown on the drawings.
Except as noted on the drawings, concrete protection for reinforcement in cast-in-place concrete shall be as follows:

a. Cast against and permanently exposed to earth 3"
b. Exposed to earth or weather:
   #6 through #18 bars 2"
   #5 bar, W31 or D31 wire, and smaller 1-1/2"
c. Not exposed to weather or in contact with ground:
   Slabs, walls, joists: #11 bar and smaller 3/4"
   Beams, columns:
      Primary reinforcement 1-1/2"
      Stirrups, ties, spirals 1-1/2"

Fibermesh admixture shall be 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 lbs per cubic yard of concrete.
Anchor bolts and rods for beam and column-bearing plates shall be placed with setting templates.
Permanent corrugated steel forms for concrete floor slabs shall be manufactured and erected according to the "Specifications and Code of Standard Practice" of the Steel Deck Institute.
All concrete work is subject to inspection by a qualified special inspector employed by the owner in accordance with IBC Section 1704.4.

STRUCTURAL STEEL:
Structural steel shall be detailed, fabricated, and erected in accordance with latest AISC Specifications, and Code of Standard Practice.
Structural steel wide flange beams shall conform to ASTM A992.
Except as noted, framed beam connections shall be bearing-type with 3/4" diameter, snug tight, A325-N bolts, detailed in conformance with Part 4, Tables II and III, for 0.6 times the allowable uniform loads tabulated in Part 2 of the AISC Manual, 9th Edition. Install bolts in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts".
All beams shall have full depth web stiffeners each side of webs above and below columns
Anchor rods shall conform to ASTM F1554, Grade 55), with weldability supplement S1.
Headed anchor studs (HAS) shall be attached to structural steel with equipment approved by the stud manufacturer according to the stud manufacturer's recommendations.
Welding shall be done by a certified welder in accordance with AISC and AWS specifications and recommendations using E70-electrodes. Where not specifically noted, minimum weld shall be 3/16" fillet by length of contact edge.
All post-installed anchors shall have current ICC Evaluation Report, and shall be installed in accordance with the manufacturer's requirements.

Expansion anchors shall be approved "wedge" type unless specifically noted to be "sleeve" type.
Chemical anchors shall be approved epoxy or similar adhesive type and shall have current ICC Evaluation Report.
Where base material is not solid, approved screen tubes shall be used.
Grout beneath column base and beam-bearing plates shall be
minimum 28-day compressive strength of 7,500 psi,
approved pre-bagged, non-metallic, non-gaseous, bleed free,
non-shrink, when tested in accordance with ASTM C1107
Grade B or C at a flow cone fluid consistency of 20 to 30 seconds

SHOP DRAWINGS:
Construction Documents are copyrighted and shall not be copied for use as erection plans or shop details.
Use of SI Inc.'s electronic files as base for shop drawings requires prior approval by SI Inc,
signed release of liability by subcontractor,
payment of an administration fee of $100 per drawing sheet to SI Inc, and
deletion of SI Inc's name and Logo from all sheets so used.
The General Contractor and his subcontractors shall submit in writing any requests to modify the plans or specifications.
All shop and erection drawings shall be checked and stamped by the General Contractor prior to submission for Engineer's review.
Unchecked submittals will be returned without review.
Furnish one (1) reproducible and two (2) prints of shop and erection drawings to the Structural Engineer for review prior to fabrication for, reinforcing steel, structural steel, decking, P.E.M.B. anchor bolt plan, P.E.M.B. shop drawings, and P.E.M.B. reactions
Submit in a timely manner to permit ten (10) working days for review.
Shop drawings submitted for review do not constitute "in writing" unless specific suggested changes are clearly marked.
In any event, such changes by means of the shop drawing submittal process become the responsibility of the one initiating such change.

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)	UNO	Unless Noted Otherwise
CTR	Center	IF	Inside Face			VERT	Vertical
CY	Cubic Yard	INT	Interior (Intermediate)	PT (1)	Post Tensioned	VIF	Verify in Field
DAB	Deformed Anchor Bar	JB	Joist Bearing	PT (2)	Pressure Treated	WA	Wedge Anchor
DET	Detail	JST	Joist	PTN	Partition	WP	Work Point
DEV	Develop	JT	Joint	PWD	Plywood	WT	Weight
DIAG	Diagonal	K	Kip (1,000 lbs.)	QTY	Quantity	WWF	Welded Wire Fabric
DIM	Dimension	LD	Load	R	Radius	XS	Extra Strong
DL	Dead Load	LL	Live Load	RD	Roof Drain	XSECT	Cross-section
DN	Down	LLH	Long Leg Horizontal	RE	Reference (refer to)	XXS	Double Extra Strong
DP	Drilled Pier	LLV	Long Leg Vertical	RECT	Rectangle		
DT	Double Tee	LOC	Location	REINF	Reinforce, -ed, -ing	(E)	Existing
DWG	Drawing	LSL	Laminated Strand Lumber (generic term)	REQ	Required	(N)	New
DWL	Dowel			REQMT	Requirement	(R)	Remove
EA	Each	LT	Light	RET	Retaining		
ECC	Eccentric	LVL	Laminated Veneer Lumber (generic term)	RM	Room		
E-E	End to End			RMO	Rough Masonry Opening		

Structural Drawing Index

S1.0	General Notes, Etc.
S1.1	Foundation Plan
S1.2	Details / Sections

TYPICAL CONCRETE WALL INTERSECTIONS
NO SCALE

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RIVERSIDE SELF STORAGE CONTAINERS
Portland, Maine

Document Title: Shipping Container Storage Foundation Drawings

Sheet Title: GENERAL NOTES

Scale: AS NOTED

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Revisions

Sheet
S1.0