

Builder/Contractor Responsibilities

Drawing Validity – These drawings, supporting structural calculations and design certification are based on the order documents as of the date of these drawings. These documents describe the material supplied by the manufacturer as of the date of these drawings. Any changes to the order documents after the date on these drawings may void these drawings, supporting structural calculations and design certification. The Builder/Contractor is responsible for notifying the building authority of all changes to the order documents which result in changes to the drawings, supporting structural calculations and design certification.

Builder Acceptance of Drawings – Approval of the manufacturer's drawings and design data affirms that the manufacturer has correctly interpreted and applied the requirements of the order documents and constitutes Builder/Contractor acceptance of the manufacturer's interpretations of the order documents and standard product specifications, including its design, fabrication and quality criteria standards and tolerances. (April 2010 Section 4.4.1)

Code Official Approval – It is the responsibility of the Builder/Contractor to ensure that all project plans and specifications comply with the applicable requirements of any governing building authority. The Builder/Contractor is responsible for securing all required approvals and permits from the appropriate agency as required.

Building Erection – The Builder/Contractor is responsible for all erection of the steel and associated work in compliance with the Metal Building Manufacturers drawings. Temporary supports, such as temporary guys, braces, false work or other elements required for erection will be determined, furnished and installed by the erector (April 2010 Section 7.10.3) (CSA/S16-09 Section 29).

Discrepancies – Where discrepancies exist between the Metal Building plans and plans for other trades, the Metal Building plans will govern. (April 2010 Section 3.3)

Materials by Others – All interface and compatibility of any materials not furnished by the manufacturer are the responsibility of and to be coordinated by the Builder/Contractor or A/E firm. Unless specific design criteria concerning any interface between materials if furnished as a part of the order documents, the manufacturers assumptions will govern.

Modification of the Metal Building from Plans – The Metal Building supplied by the manufacturer has been designed according to the Building Code and specifications and the loads shown on this drawing. Modification of the building configuration, such as removing wall panels or braces, from that shown on these plans could affect the structural integrity of the building. The Metal Building Manufacturer or a Licensed Structural Engineer should be consulted prior to making any changes to the building configuration shown on these drawings. The Metal Building Manufacturer will assume no responsibility for any loads applied to the building not indicated on these drawings.

Foundation Design
The Metal Building Manufacturer is not responsible for the design, materials and workmanship of the foundation. Anchor rod plans prepared by the manufacturer are intended to show only location, diameter and projection of the anchor rods required to attach the Metal Building System to the foundation. It is the responsibility of the end customer to ensure that adequate provisions are made for specifying rod embedment, bearing values, tie rods and or other associated items embedded in the concrete foundation, as well as foundation design for the loads imposed by the Metal Building System, other imposed loads, and the bearing capacity of the soil and other conditions of the building site. (MBMA 06 Sections 3.2.2 and A3)



For questions regarding the interpretation of the drawings, materials provided, or assembly of the parts:
 • Call 1-800-879-7827 and ask for the "Field Service" department.
 • Before or after normal hours, you may send an email to OKCSField.Service@StarBuildings.net. Please include the order no., brief description of the question, & contact name and phone number.

Drawing Index		Ch'd	By	Description	Date	Revision
Page	Description					
E1	Cover Sheet					
E2	Roof Framing BLDGA					
E3	Roof Sheeting					
E4	Sidewall BLDGA WALLSWA					
E5	Sidewall BLDGA WALLSWC					
E6	Endwall BLDGA WALLEWB					
E7	Endwall BLDGA WALLEWD					
E8-E11	Main Frame Cross Sections					
R1-R4	Erection Guides					
R5-R14	Construction Drawings					
R15	Trim Profiles					

ENGINEERING DESIGN CRITERIA

Building Code	2009 IBC
Occupancy Category	Normal (Category II)
Roof Dead Load	
Superimposed	3.02 psf
Collateral	5.00 psf
(0.00 psf Ceiling 5.00 psf Other)	
Roof Live Load	20.00 psf no reduction
Snow	
Ground Snow Load (Pg)	60.00 psf
Snow Load Importance Factor (I)	1.00
Flat Roof Snow Load (PF)	42.00 psf
Snow Exposure Factor (Ce)	1.00
Thermal Factor (Ct)	1.00
Wind	
Basic Wind Speed	94.00 mph
Wind Importance Factor (I)	1.00
Wind Exposure Category	C
Internal Pressure Coef (GCpi)	0.18/-0.18
Loads for components not provided by building manufacturer	
Corner Areas (within 8.00' of corner)	19.04 psf pressure -25.39 psf suction
Other Areas	19.04 psf pressure -20.63 psf suction
These values are the maximum values required based on a 10 sq ft area.	
Components with larger areas may have lower wind loads.	
Seismic	
Seismic Importance Factor (Ie)	1.00
Seismic Design Category	B
Soil Site Class	D Stiff Soil
Ss	0.314 g
SI	0.077 g
Analysis Procedure	Equivalent Lateral Force
Column Line	All
Basic Force Resisting System	H
Response Modification Coefficient (R)	3.00
Seismic Response Coefficient (Cs)	0.11
Design Base Shear in kips (V)	16.92
Basic Structural System (from ASCE 7-05 Table 12.2-1)	
H – Steel System not Specifically Detailed for Seismic Resistance	

PROJECT NOTES

Material properties of steel bar, plate, and sheet used in the fabrication of built-up structural framing members conform to ASTM A529, ASTM A572, ASTM A1011 SS, or ASTM A1011 HSLAS with a minimum yield point of 50 ksi. Material properties of hot rolled structural shapes conform to ASTM A992, ASTM A529, or ASTM A572 with a minimum specified yield point of 50 ksi. Hot rolled angles, other than flange braces, conform to ASTM 36 minimum. Hollow structural shapes conform to ASTM A500 grade B, minimum yield point is 42 ksi for round HSS and 46 ksi for rectangular HSS. Material properties of cold-formed light gage steel members conform to the requirements of ASTM A1011 SS Grade 55, ASTM A1011 HSLAS Grade 55 Class 1, ASTM A653 SS Grade 55, or ASTM A653 HSLAS Grade 55 Class 1 with a minimum yield point of 55 ksi. For Canada, material properties conform to CAN/CSA G40.20/G40.21 or equivalent.

All bolted joints with A325 Type 1 bolts are specified as snug-tightened joints in accordance with the Specification for Structural Joints Using ASTM A325 or A490 Bolts, December 31, 2009. Pre-tensioning methods, including turn-of-nut, calibrated wrench, twist-off-type tension-control bolts or direct-tension-indicator are NOT required. Installation inspection requirements for Snug Tight Bolts (Specification for Structural Joints Section 9.1) is suggested.

Design criteria as noted is as given within order documents and is applied in general accordance with the applicable provisions of the model code and/or specification indicated. Neither the metal building manufacturer nor the certifying engineer declares or attests that the loads as designated are proper for local provisions that may apply or for site specific parameters. The design criteria is supplied by the builder, project owner, or an Architect and/or Engineer of Record for the overall construction project.

This project is designed using manufacturer's standard serviceability criteria. Generally this means that all deflections are within typical performance limits for normal occupancy and standard metal building products.

The metal building manufacturer has not designed the structure for snow accumulation loads at the ground level which may impose snow loads on the wall framing provided by the manufacturer.

This metal building system is designed as enclosed. All exterior components (i.e. doors, windows, vents, etc.) must be designed to withstand the specified wind loading for the design of components and cladding in accordance with the specified building code.

Framed openings, walk doors, and open areas shall be located in the bay and elevation as shown in the erection drawings. The cutting or removal of girts shown on the erection drawings due to the addition of framed openings, walk doors, or open areas not shown may void the design certifications supplied by the metal building manufacturer.

The wall construction by others at building(s) A and side(s) A, B, C, and D has a self weight of 45 psf. This weight has been utilized in the design considerations for the building's seismic design.

The cold form members on building A side A, B, C, and D designed by the metal building manufacturer do not provide structural support at the top of the wall system not furnished by the metal building manufacturer.

DEFLECTION CRITERIA

The material supplied by the manufacturer has been designed with the following minimum deflection criteria. The actual deflection may be less depending on actual load and actual member length. The frame sidesway for wind loading is based on ASCE 7 commentary equation CC-3 of 0.7W. The limits shown are at service loads unless indicated otherwise.

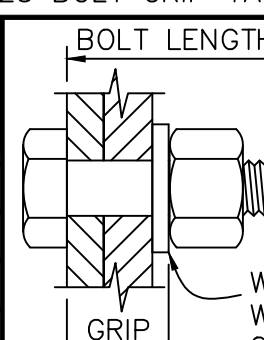
BUILDING DEFLECTION LIMITS... BLDG-A

Roof Limits	Rafters	Purlins	Panels
Live L/	180	150	60
Snow L/	180	180	60
Wind L/	180	180	60
Total Gravity L/	120	120	60
Total Uplift L/	N/A	N/A	60
Frame Limits	Sidesway		
Live H/	60		
Snow H/	60		
Wind H/	60		
Seismic Drift H/	40		
Service-Level Crane H/	100		
Total Wind H/	60		
Total Gravity H/	60		
Service Seismic H/	50		
Wall Limits	Limit		
Total Wind Panels L/	60		
Total Wind Girts L/	90		
Total Wind EW Columns L/	120		

The Service Seismic limit as shown here is at service level loads.

BUILDING DESCRIPTIONS				
Building ID	Width	Length	Height	Slope
Building A	80'-0"	100'-0"	20'-0"	1/2:12

3/8" A325 BOLT GRIP TABLE	
GRIP	LENGTH
0 TO 9/16"	1 1/4" F.T.
Over 9/16" TO 1 1/16"	1 3/4" F.T.
Over 1 1/16" TO 1 5/16"	2"
Over 1 5/16" TO 1 9/16"	2 1/4"
Over 1 9/16" TO 1 13/16"	2 1/2"
Over 1 13/16" TO 2 1/16"	2 3/4"



NOTE: FULL THREAD ENGAGEMENT IS DEEMED TO HAVE BEEN MET WHEN THE END OF THE BOLT IS FLUSH WITH THE FACE OF THE NUT.

WASHER REQUIRED ONLY WHEN SPECIFIED. WASHER MAY BE LOCATED UNDER HEAD OF BOLT, UNDER NUT, OR AT BOTH AT LOCATIONS NOTED ON ERECTION DRAWINGS. ADD 5/32" FOR EACH WASHER TO MATERIAL THICKNESS TO DETERMINE GRIP.

LOCATIONS OF BOLTS LONGER THAN 2 3/4" NOTED ON ERECTION DRAWINGS
 F.T. DENOTES FULLY THREADED

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STAR BUILDING SYSTEMS
 AN NCI COMPANY

Project Name & Location:
 HARDYSPOND CONSTRUCTION
 1039 RIVERSIDE LLC
 PORTLAND, ME

Drawing Status:
 Preliminary (Not For Construction)
 For Approval (Not For Construction)
 For Construction Permit
 For Erector Installation

Scale: NOT TO SCALE
 Drawn by: TJK 3/6/17
 Checked by: TJK 3/6/17
 Project Engineer: JMB
 Job Number: 15-B-70493
 Sheet Number: E1 of 11

The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

Phillip J. Johnson, P.E.
 Maine P.E. 11018

Mar 06, 2017

