

**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. (AISC code of standard practice Sept 86 Section 4.2.1) (Mar 05 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 (AISC Code of Standard Practice Sept 86 Section 7.9.1) (Mar 05 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. (AISC Code of Standard Practice Sept 86 Section 3.3) (Mar 05 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)

**Shimming** - In accordance with Section 6.10 of Chapter 4 Common Industry Practices in the Metal Building Systems Manual, shimming is a normal part of erection and is not subject to claim.

Building Descriptions			
Building ID	Width	Length	Height
Building A	60'-0	120'-0	14'-0



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# TORO STEEL BUILDINGS

1405 DENISON STREET, MARKHAM, ONTARIO L3R 5V2  
TEL: (877) 870-8676 FAX: (877) 474-4445

**DESIGN CRITERIA**

Job Number ..... 19-B-68083  
 Builder ..... TORO STEEL BUILDINGS LTD dba TORO STEEL.  
 Jobsite Location ..... JOY MIDDLETON, OWEN SOUND, ON

Building Code ..... 2015 National Building Code Of Canada  
 Building Importance Category ..... Normal

Roof Dead Load Superimposed: : 0.12 kPa // 2.48 psf  
 Roof Collateral Load: : 0.19 kPa // 4.00 psf  
 (Other: 0.19 kPa // 4.00 psf)  
 Roof Live Load : 1.00 kPa // 20.89 psf

Ground Snow Load (Ss) : 2.92 kPa // 61.03 psf  
 Rain Load (Sr) : 0.40 kPa // 8.40 psf  
 Basic Roof Snow Load Factor (Cb) : 0.80  
 Importance Factor (Is) : 1.00  
 Shape Factor (Ca) : 1.00  
 Snow Exposure Factor (Cw) : 1.00  
 Roof Snow Load : 2.74 kPa // 57.22 psf

Wind Load '1/50 : 0.48 kPa // 10.02 psf  
 Wind Exposure (Ce) : Open Terrain  
 Building Internal Pressure : Category 2  
 Wind Importance Factor (Iw) : 1.00  
 Wind Topographic Factor : 1.00

Seismic Data  
 Sa(0.2)= 0.08  
 Sa(0.5)= 0.06  
 Sa(1.0)= 0.04  
 Sa(2.0)= 0.02  
 Sa(5.0)= 0.005  
 Sa(10.0)= 0.002  
 Fga= 0.05  
 Fw= 1.24  
 Fv= 1.55  
 Soils Site Class: D  
 Importance Factor (Ie) : 1.00  
 Transverse Response Modification Rd: 1.50  
 Longitudinal Response Modification Rl: 1.50  
 Overstrength Factor Ro : 1.30

**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, or ASTM A1011 with 55 ksi min. yield, except flanges wider than 12" and thicker than 3/8", all flanges thicker than 1", and all webs thicker than 3/8" are 50 ksi min. yield. Rod X-bracing conforms to ASTM A529 or ASTM A572 with 50 ksi min. yield. Cable X-bracing conforms to ASTM A475 7 Strand Extra High-Strength grade. Hot rolled structural shapes conform to ASTM A992, ASTM A529, or ASTM A572 with 50 ksi min. yield. Hot rolled angles, other than flange braces, conform to ASTM A36 minimum. Round and rectangular HSS conforms to ASTM A500 Grade B. Cold-formed steel secondary framing Members conform to ASTM A1011 or ASTM A653 Grade 55 with 55 ksi min. yield. 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 most recent edition of the RCSC Specification for Structural Joints Using ASTM A325 or A490 Bolts. 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.

The following criteria apply to projects in Canada.  
 a. Erection tolerances must meet the requirements of CAN/CSA S16.  
 b. Materials will be fabricated in a facility that has received the Canadian Welding Bureau certification CSA standard W47.1 in Division 1.  
 c. Materials will be fabricated in a facility that has been certified to standard CSA A660 Certification of Manufactures of Steel Building Systems.

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.

**DEFLECTION CRITERIA**

Job Number ..... 19-B-68083  
 Builder ..... TORO STEEL BUILDINGS LTD dba TORO STE.  
 Jobsite Location ..... JOY MIDDLETON, OWEN SOUND, ON

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 lateral drift or sidesway is based upon importance factors of 0.9 for specified snow loads and 0.75 for specified wind loads. The limits shown are at service loads unless indicated otherwise.

BUILDING DEFLECTION LIMITS ..... BLDG-A

Roof Limits	Rafters	Purlins	Panels
Live: L/	180	180	60
Snow: L/	180	180	60
Wind: L/	180	180	60
Total Gravity: L/	180	120	60
Total Uplift: L/	N/A	N/A	60

  

Frame Limits	Sidesway
Live: H/	60
Snow: H/	60
Wind: H/	60
Seismic: H/	40
Total Wind: H/	60
Total Gravity: H/	60
Total Seismic: H/	40

  

Wall Limits	Limit
Total Wind Panels: L/	60
Total Wind Girts: L/	90
Total Wind EW Columns: L/	90

Drawing Index		Ck'd	By	Date	Revision
Page	Description				
F1	Anchor Rod Setting Plan				
F2	Anchor Rod Details				
F3	Reactions				
E1	Cover Sheet				
E2	Primary Steel				
E3	Roof Framing				
E4	Roof Sheeting				
E5	Sidewall SWA				
E6	Sidewall SWC				
E7	Endwall EWB				
E8	Endwall EWD				
E10	Cross Section at Frame Line 2				
E11	Cross Section at Frame Line 3				
E12	Cross Section at Frame Line 4				
E13	Cross Section at Frame Line 5				
E14	Cross Section at Frame Line 6				
E15	Cross Section at Frame Line 7				

**TORO STEEL BUILDINGS**  
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**Customer:**  
 TORO STEEL BUILDINGS LTD DBA  
 TORO ST 1405 DENISON ST  
 MARKHAM, ON L3R-5V2

**Project Name & Location:**  
 JOY MIDDLETON  
 1800 8TH STREET EAST  
 OWEN SOUND, ON N4K 6M9

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

Scale: NOT TO SCALE  
 Drawn by: KVM 7/12/24  
 Checked by: DC 7/12/24  
 Project Engineer: JDM

Job Number: 19-B-68083  
 Sheet Number: E1 of 14

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.

S. HOSSEINZADEH, P.ENG  
 ONTARIO P.ENG 100541411

This item has been electronically signed and sealed by S. Hosseinzadeh, P.ENG on the date and/or time stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified by a 3rd Party Certificate Authority on any electronic copy.



Jul 15, 2024

DETAILS SUBJECT TO CHANGE BASED ON FINAL DESIGN. ISSUED FOR CONSTRUCTION DRAWINGS WILL REPLACE THE PERMIT DRAWINGS.

**1/2" DIA. A325 BOLT GRIP TABLE**

GRIP	LENGTH	BOLT 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



























