

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).

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 manufacturer's 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)



1343 SANDHILL DRIVE
ANCASTER, ONTARIO L9G 4V5
905-304-1111

For questions regarding the interpretation of the drawings, materials provided, or assembly of the parts:
• Call 1-905-304-2431 and ask for the "Field Service" department.
• Before or after normal hours, you may send an email to FieldServices@RobertsonBuildings.com. Please include the order no., brief description of the question, & contact name and phone number.

ENGINEERING DESIGN CRITERIA

Building Code	2015 National Building Code Of Canada
Building Importance Category	Normal
Roof Dead Load Superimposed:	0.12 kPa // 2.52 psf
Roof Collateral Load:	0.02 kPa // 0.50 psf
(Other: 0.02 kPa // 0.50 psf)	
Roof Live Load	1.01 kPa // 21.00 psf
Ground Snow Load (Ss)	2.40 kPa // 50.12 psf
Rain Load (Sr)	0.40 kPa // 8.40 psf
Basic Roof Snow Load Factor (Cb)	1.00
Roof Slope Factor (Cs)	1.00
Importance Factor (Is)	1.00
Shape Factor (Co)	1.00
Snow Exposure Factor (Cw)	1.00
Roof Snow Load	2.32 kPa // 48.50 psf
Wind Load (1/50)	0.41 kPa // 8.56 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) = 0.40
	Sa(0.5) = 0.22
	Sa(1.0) = 0.11
	Sa(2.0) = 0.05
	Sa(5.0) = N/A
	Sa(10.0) = N/A
	Pga = 0.26
	Fa = 1.08
	Fv = 1.39
	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.

BOLT TIGHTENING FOR CANADIAN JOBS– Rigid frame connection bolts with ASTM A325-A490 Type 1 bolts greater than 1/2" diameter are specified as pretensioned joints in accordance with the Specification for Structural Joints Using High-Strength Bolts, August 1, 2014. All the brace connections except rod braces must be pretensioned. Pretensioning can be accomplished by using the turn-of-nut method of tightening, calibrated wrench, twist-of-type tension-control bolts or direct-tension-indicator as acceptable to the Inspecting Agency and Building Official. Installation inspection requirements for pretensioned joints (Specification for Structural Joints Section 9.2) using direct-tension-indicator is recommended. The connections on this project are not slip critical. Base plate anchor bolts are not required to be pretensioned. Mezzanine beam connection are not required to be pretensioned unless otherwise noted.

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.

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. For projects in Canada the NCI Building Systems Houston, TX plant has received the Canadian welding bureau certification to CSA standard W47.1 in Division 1.
c. For projects in Canada the NCI Building Systems Houston, TX plant has received certification under the Manufactures of Steel Building Systems CAN/CSA A660 requirements.

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 framing at building A frame line 1 is designed to receive a future addition with a maximum bay spacing of 20 feet as measured between centerline of the existing endwall frame to the centerline of the future frame.

The girts in building A and side A have been designed with the liner attached to the inner flange of the girts. If the liner is not installed or is removed the girt shall be reviewed for structural adequacy.

25% of Roof Snow included in Seismic Weight Calculations.

Using 7 x 7 eave gutter with 4 x 5 downspouts, the roof drainage system has been designed using the method outlined in the MBMA Metal Building Systems Manual. Downspout locations have not been located on these drawings. The downspouts are to be placed on the building sidewalls at a spacing not to exceed 80 feet with the first downspout from both ends of the gutter run within 40 feet of the end. Downspout spacing that does not exceed the maximum spacing will be in compliance with the building code. The gutter and downspout system as provided by the manufacturer is designed to accommodate 4 in/hr rainfall intensity.

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 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	180	60
Total Uplift: L/	N/A	N/A	60
Frame Limits	Sidesway	Portal Frame	Sidesway
Live: H/	180		
Snow: H/	180		
Wind: H/	60		
Seismic: H/	78	78	
Total Wind: H/	60	60	
Total Gravity: H/	180		
Total Seismic: H/	78	78	
Wall Limits	Limit		
Total Wind Panels: L/	60		
Total Wind Girts: L/	90		
Total Wind EW Columns: L/	90		

Download panel installation manuals from:
www.ncimanuals.com

Descargue los manuales de instalación del panel desde:
www.ncimanuals.com



BUILDING DESCRIPTIONS

Building ID	Width	Length	Height	Slope
Building A	60'-0"	80'-0"	20'-0"	2:12

3/8" A325 BOLT GRIP TABLE (UNLESS NOTED)

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.

Drawing Index

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E2	Roof Framing BLDGA				
E3	Roof Sheeting				
E4	Sidewall BLDGA WALLSWA				
E5	Sidewall BLDGA WALLSWC				
E6	Endwall BLDGA WALLEWB				
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1343 SANDHILL DRIVE
ANCASTER, ONTARIO L9G 4V5
905-304-1111

Robertson Building Systems

Customer: METALPRO BUILDINGS
1062 MARGOLD ST
LONDON, ON N5X-4N9 CA

Project Name & Location:
ALLEN ROBERTS
5949 OTTAWA STREET
OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E1 of 17

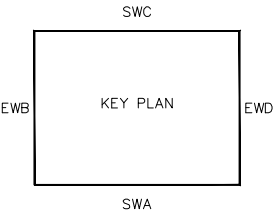
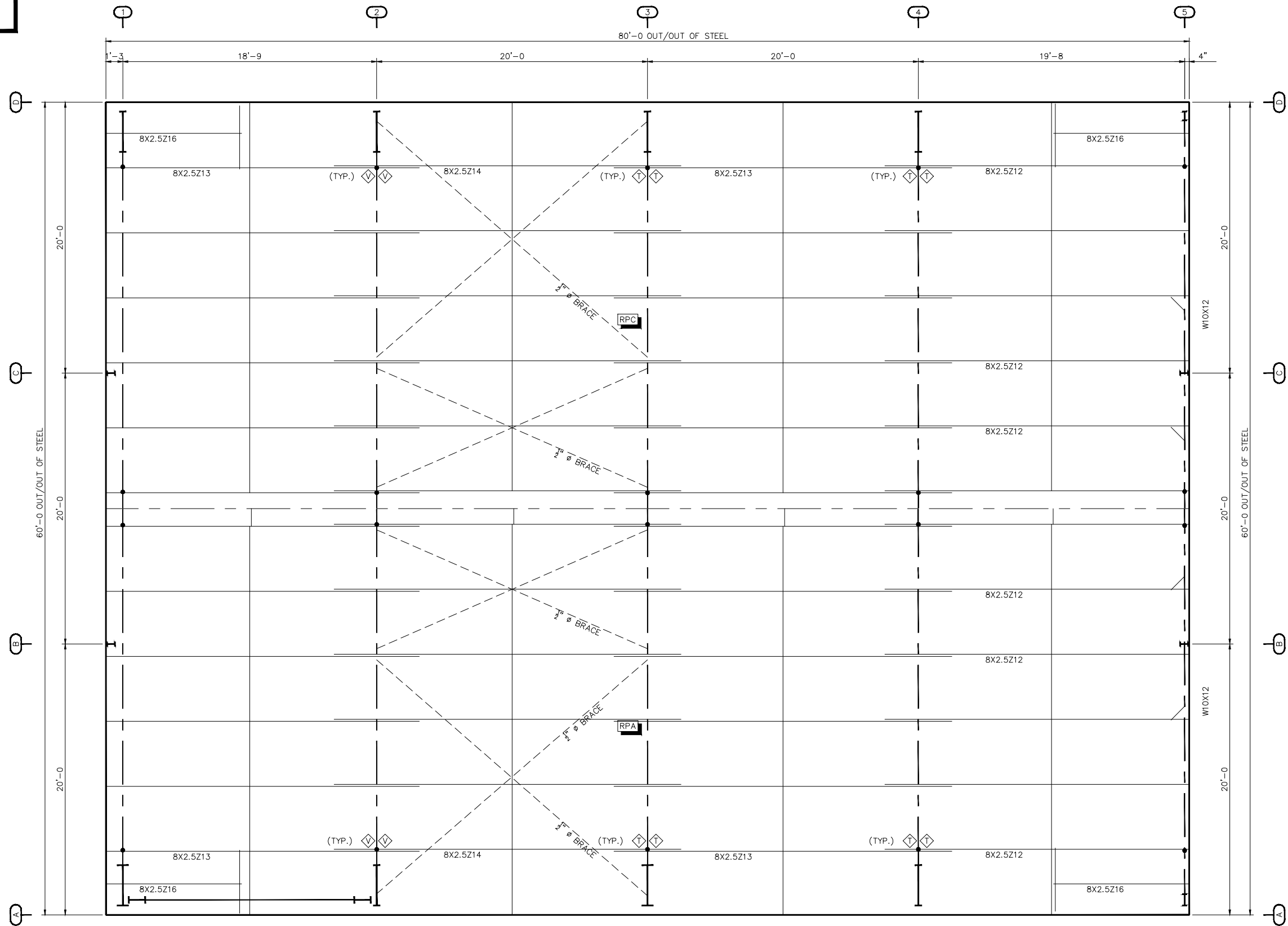
The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

A. SZILVESZTER, P.ENG
ONTARIO P.ENG 100041568

Drawing has been digitally signed.



● - DENOTES: CLIP LOCATION
 SC90 AT 8" PURLINS
 SC92 AT 10" PURLINS
 SC94 AT 12" PURLINS



ZEE SECTION LAP TABLE			
SYMBOL	LAP LENGTH	SYMBOL	LAP LENGTH
	0'-0 1/4"		2'-5 1/2"
	0'-3 1/2"		3'-1 1/2"
	1'-5 3/4"	REFER TO CF01122	

ROOF FRAMING PLAN

Revision	Date	Description
A	03/01/21	FOR CONSTRUCTION PERMIT

Robertson Building Systems
 1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E2 of 17

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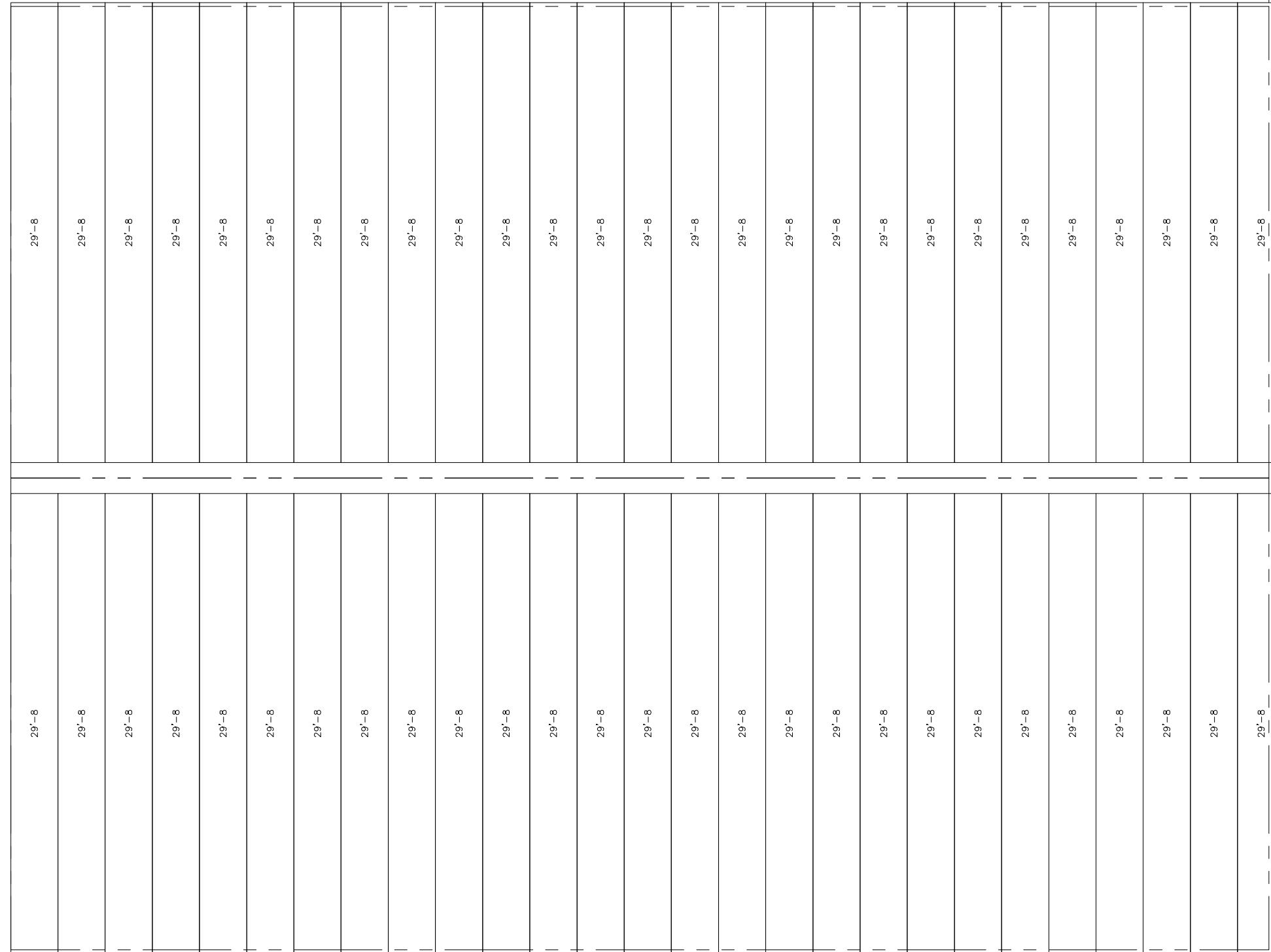
A. SZILVESZTER, P.ENG
 ONTARIO P.ENG 100041568

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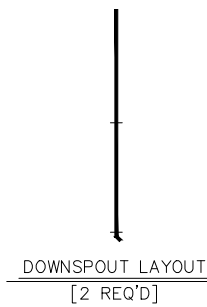
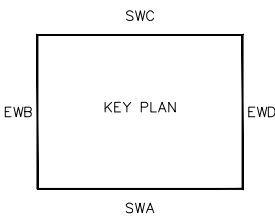
ROOF SHEETING PLANE 2
 PANEL TYPE = PBR (GALVALUME)
 PANEL OVERHANG = 3"
 FROM OUTER STEEL

1'-0" BEYOND



ROOF SHEETING PLANE 1
 PANEL TYPE = PBR (GALVALUME)
 PANEL OVERHANG = 3"
 FROM OUTER STEEL

ROOF SHEETING PLAN



NOTE
 THE DOWNSPOUTS ARE TO BE PLACED ON THE BUILDING SIDEWALLS AT A SPACING NOT TO EXCEED 80 FEET WITH THE FIRST DOWNSPOUT FROM BOTH ENDS OF THE GUTTER RUN WITHIN 40 FEET OF THE END.

Revision	Date	Description
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1343 SANDHILL DRIVE
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Drawing Status:
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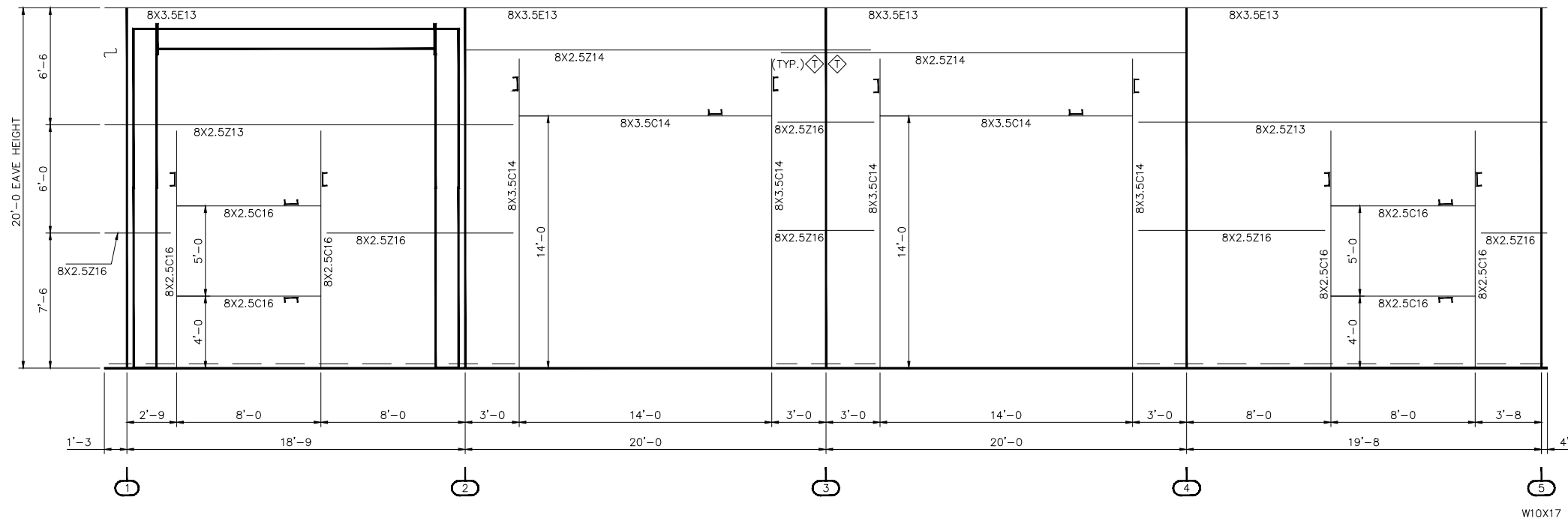
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 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E3 of 17

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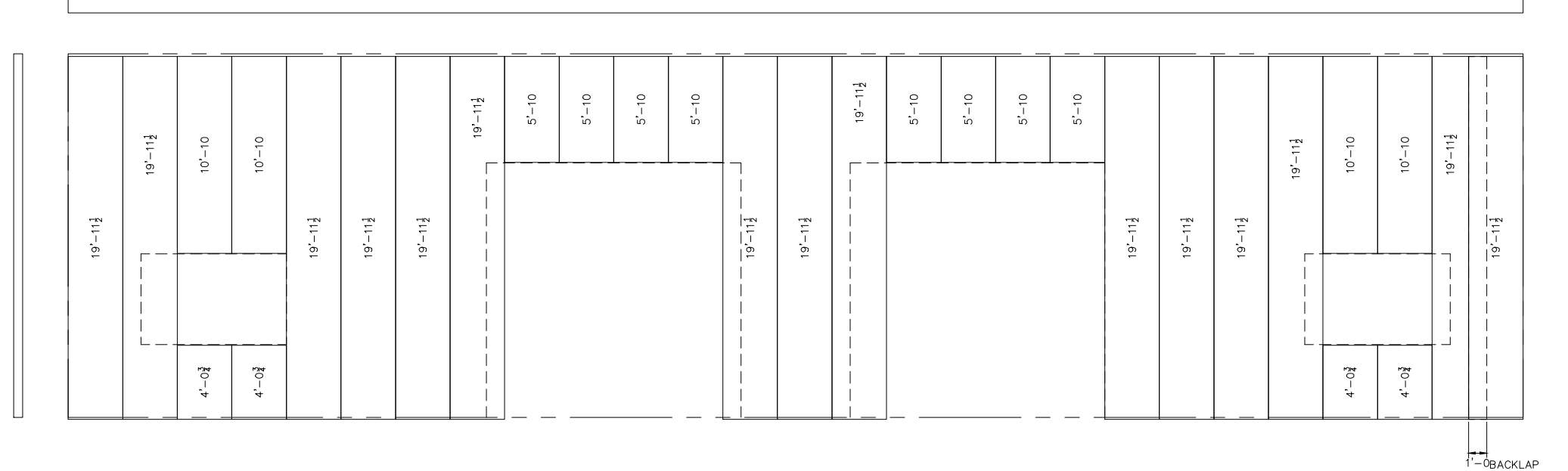
A. SZILVESZTER, P.ENG
 ONTARIO P.ENG 100041568

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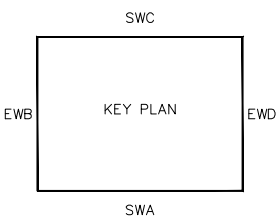


SIDEWALL ELEVATION "SWA" AT GRID LINE "A"



WALL SHEETING ELEVATION "SWA"
BLDG "A"

PBR WALL PANELS
 PANEL COVERAGE = 3'-0"
 COLOR = CHARCOAL GRAY
 PANEL PKG. REQ'D. = PBS-2
 Field Cut Panel and Trim as
 required per Construction Details



ZEE SECTION LAP TABLE			
SYMBOL	LAP LENGTH	SYMBOL	LAP LENGTH
	-0'-0 1/4"		2'-5 1/2"
	0'-3 1/2"		3'-1 1/2"
	1'-5 3/4"	REFER TO CF01122	

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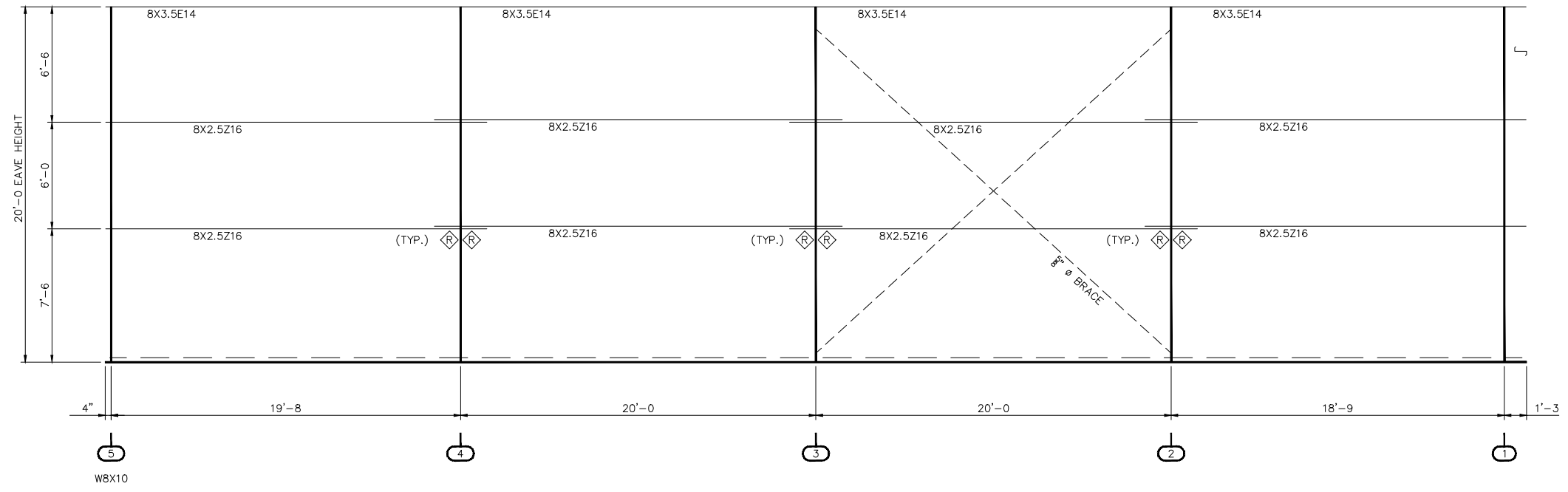
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 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E4 of 17

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 ONTARIO P.ENG 100041568

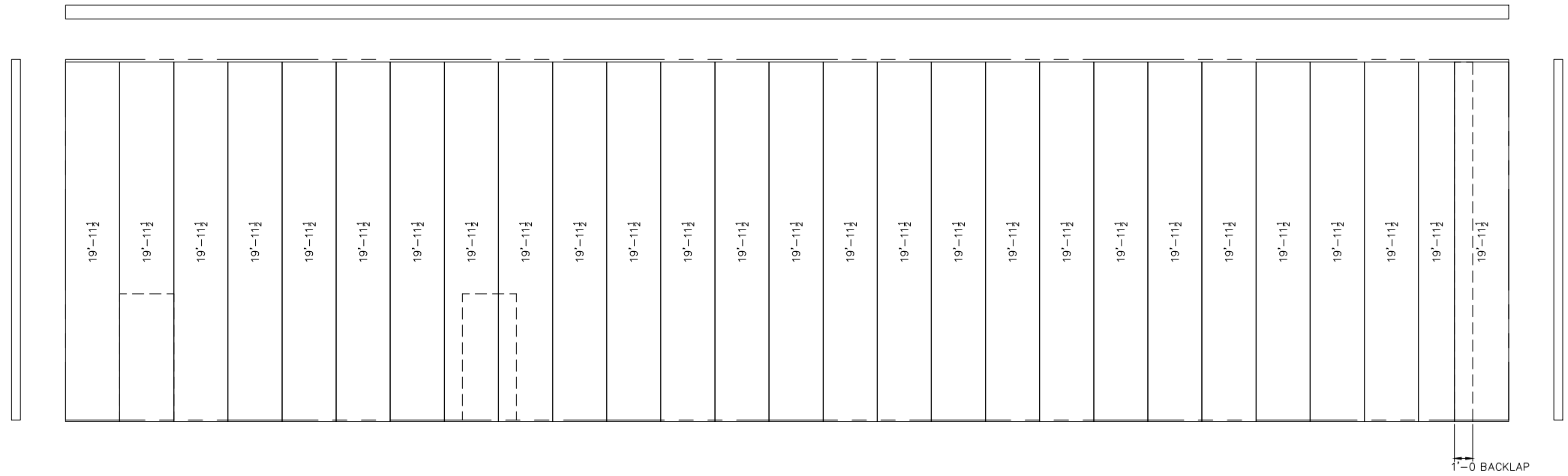
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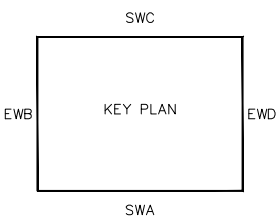
ONE FB4A @ 13'-6" RIGHT

SIDEWALL ELEVATION "SWC" AT GRID LINE "D"



PBR WALL PANELS
 PANEL COVERAGE = 3'-0"
 COLOR = CHARCOAL GRAY
 PANEL PKG. REQ'D. = PBS-3
 Field Cut Panel and Trim as
 required per Construction Details

ZEE SECTION LAP TABLE			
SYMBOL	LAP LENGTH	SYMBOL	LAP LENGTH
	0'-0 1/4"		2'-5 1/2"
	0'-3 1/2"		3'-1 1/2"
	1'-5 3/4"	REFER TO CF01122	



WALL SHEETING ELEVATION "SWC"
 BLDG "A"

Revision	Date	Description
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Robertson Building Systems

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E5 of 17

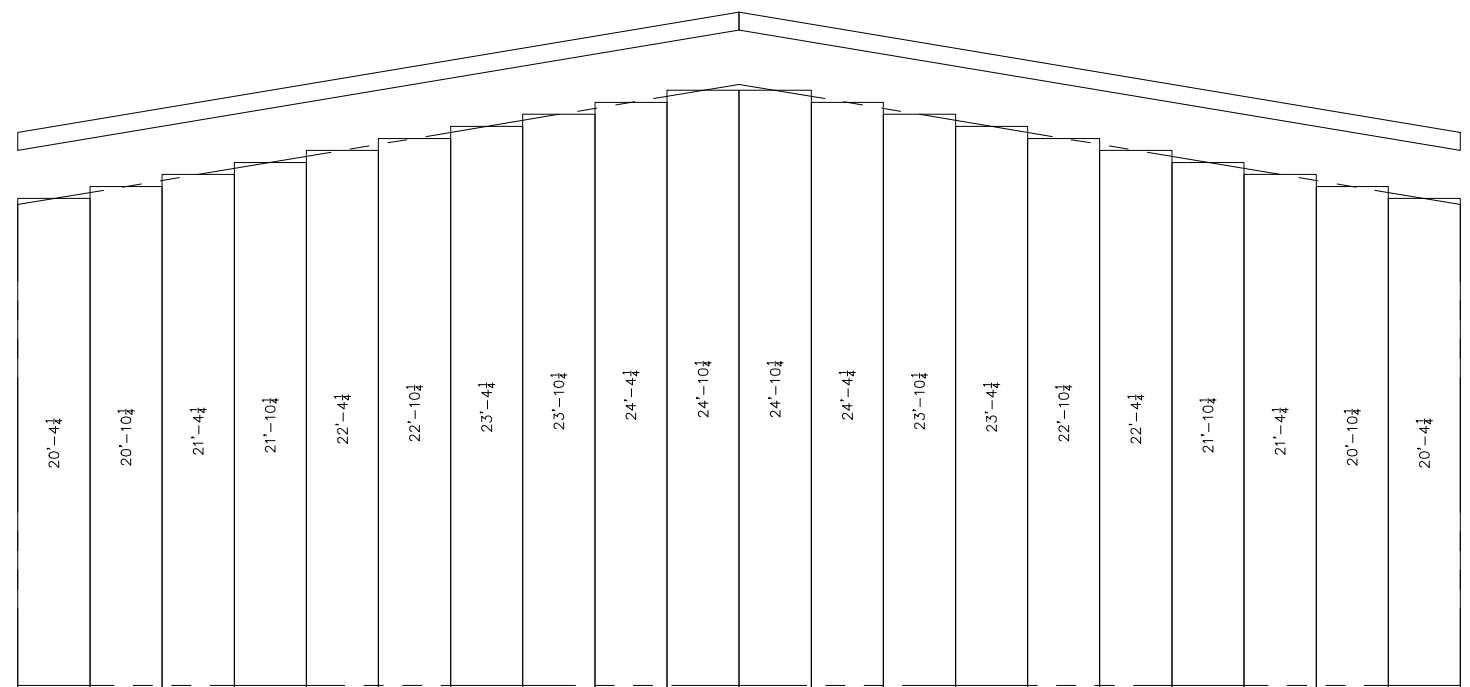
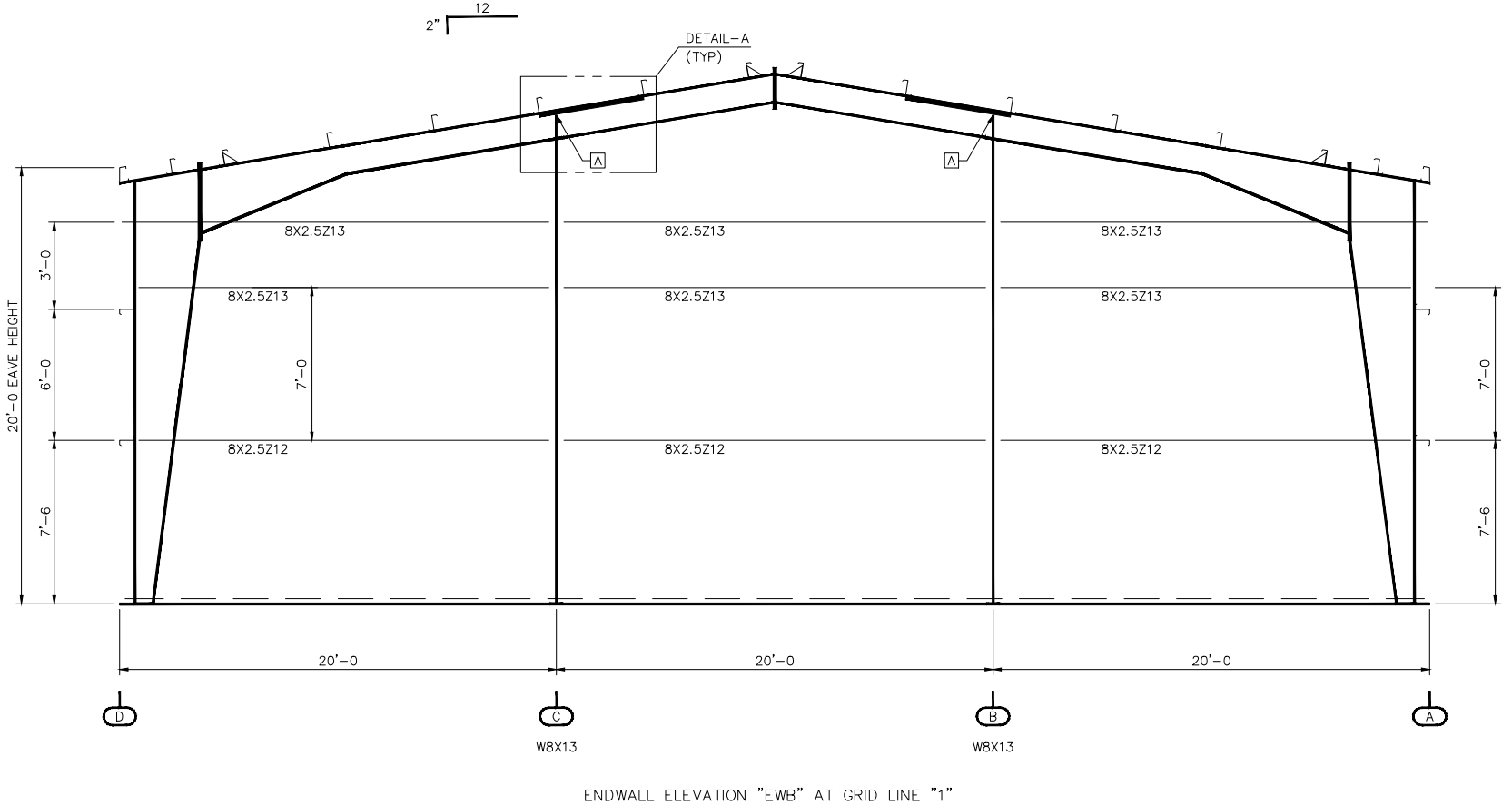
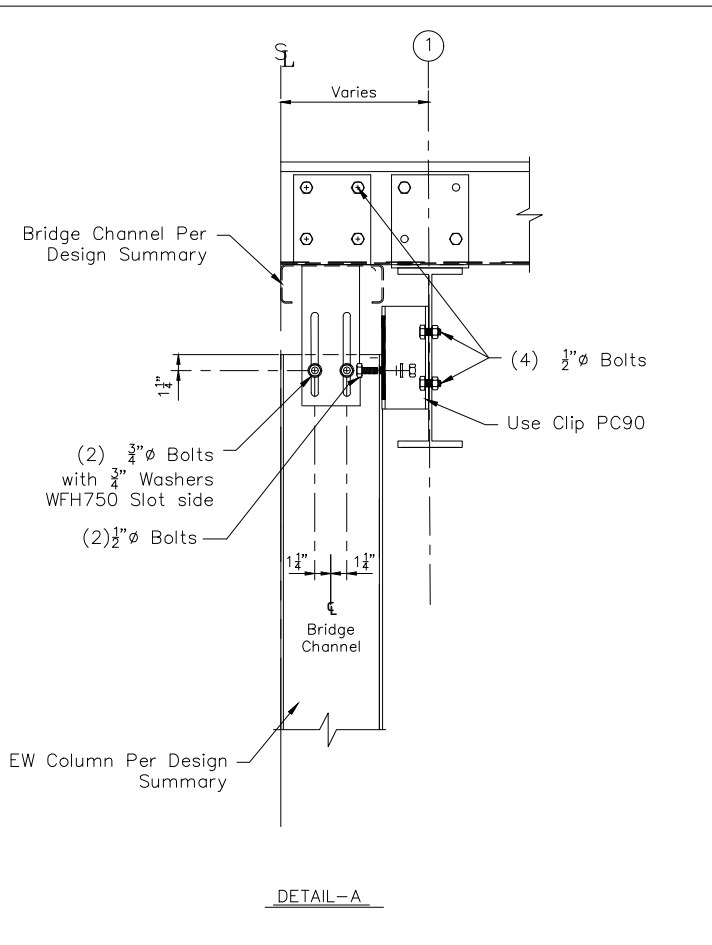
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 ONTARIO P.ENG 100041568

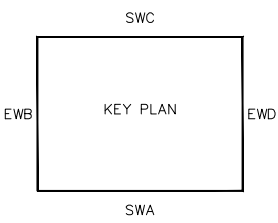
Drawing has been digitally signed.



SPlice Bolt Table				
CONN.	QTY.	SIZE	TYPE	HARDENED BEVELED WASHERS
A	(4)	3/4" X 1 1/2"	A325 B&N	0
				0



PBR WALL PANELS
 PANEL COVERAGE = 3'-0"
 COLOR = CHARCOAL GRAY
 PANEL PKG. REQ'D. = PBS-1
 Field Cut Panel and Trim as
 required per Construction Details



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1343 SANDHILL DRIVE
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 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E6 of 17

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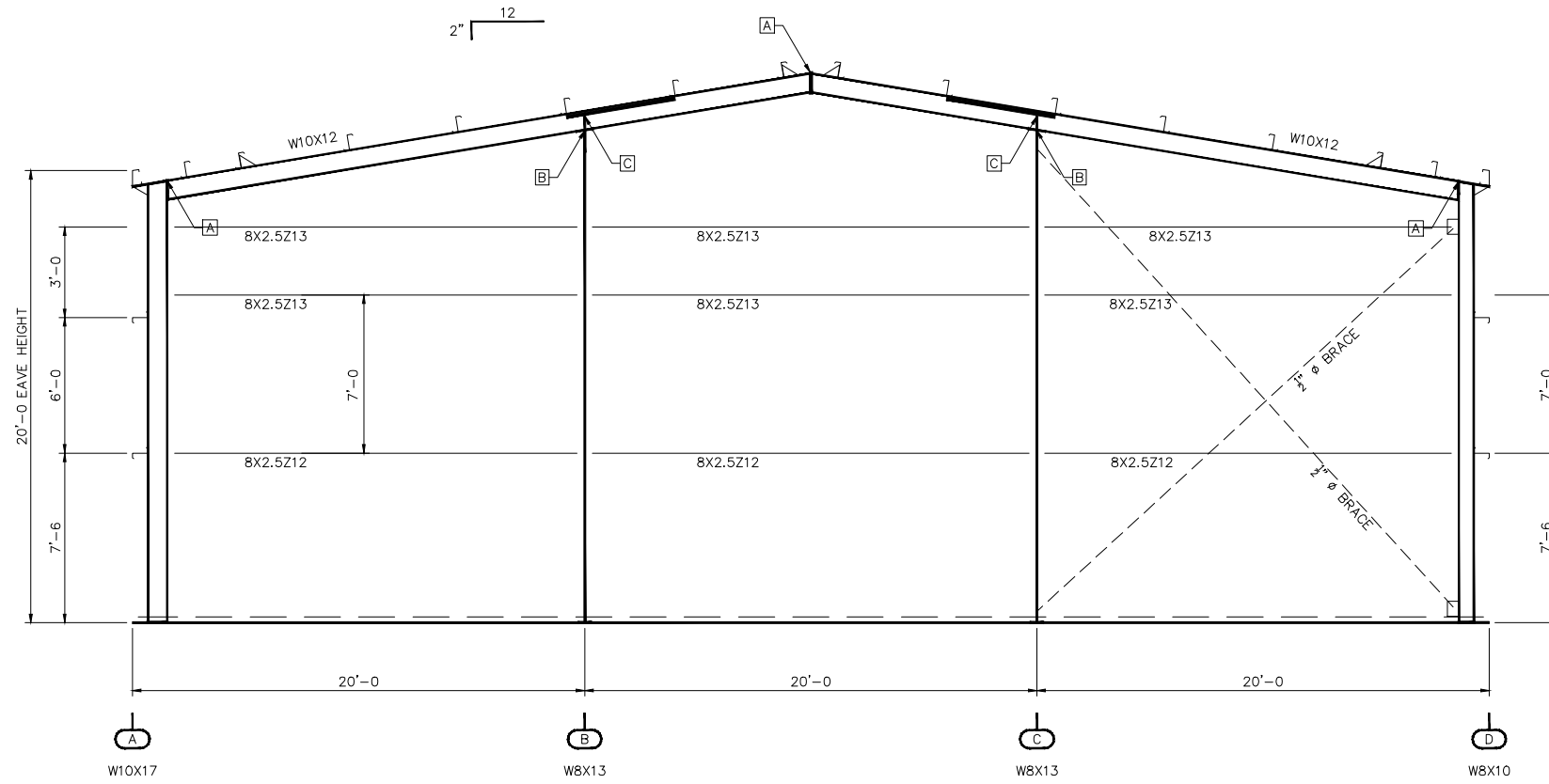
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 ONTARIO P.ENG 100041568

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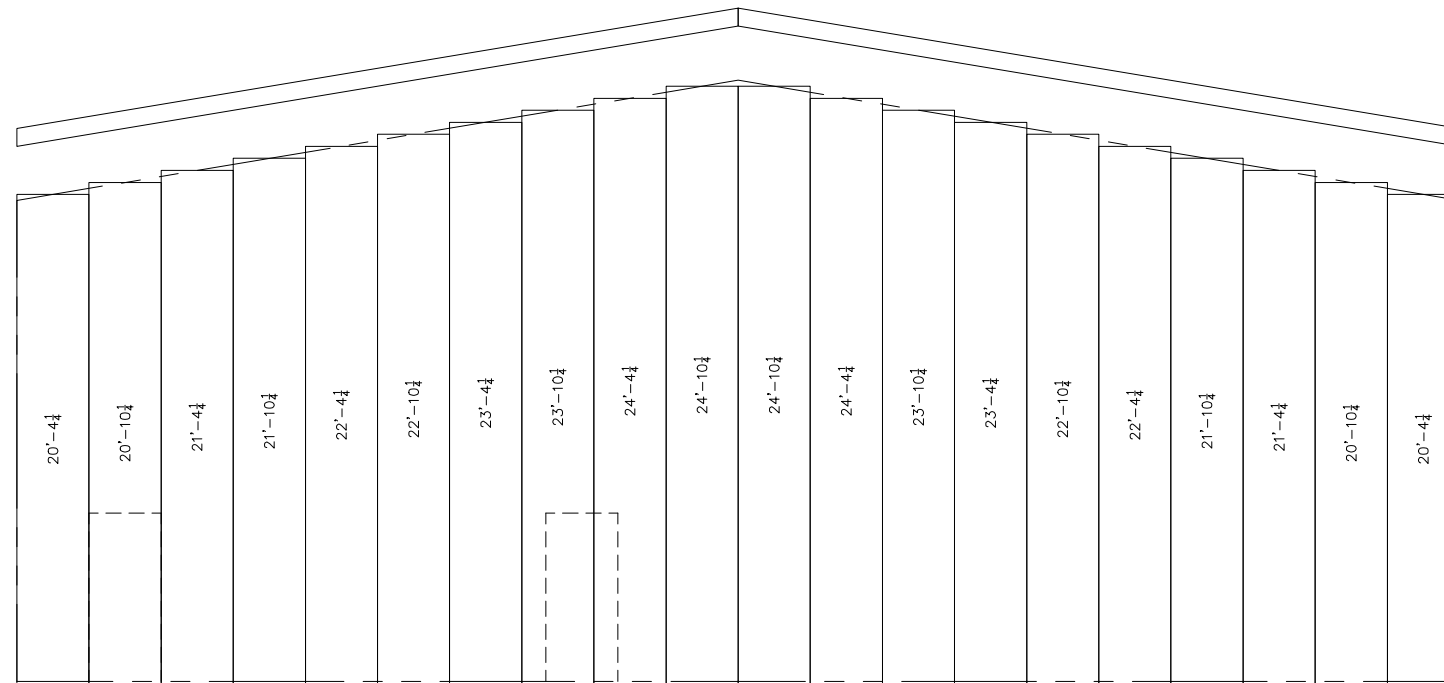


WALL SHEETING ELEVATION "EWB"
 BLDG "A"

SPLICE BOLT TABLE					
CONN.	QTY.	SIZE	TYPE	HARDENED WASHERS	BEVELED WASHERS
A	(4)	1/2" X 1 1/2"	A325 B&N	0	0
B	(4)	1/2" X 1 1/2"	A325 B&N	4	0
C	(4)	1/2" X 1 1/2"	A325 B&N	0	0

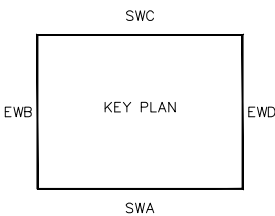


ENDWALL ELEVATION "EWD" AT GRID LINE "5"



WALL SHEETING ELEVATION "EWD"
BLDG "A"

PBR WALL PANELS
 PANEL COVERAGE = 3'-0"
 COLOR = CHARCOAL GRAY
 PANEL PKG. REQ'D. = PBS-4
 Field Cut Panel and Trim as
 required per Construction Details



Revision	Date	Description	By	Ck'd
A	03/01/21	FOR CONSTRUCTION PERMIT	SRA	DLS

1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Robertson Building Systems

Customer: METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location: ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E7 of 17

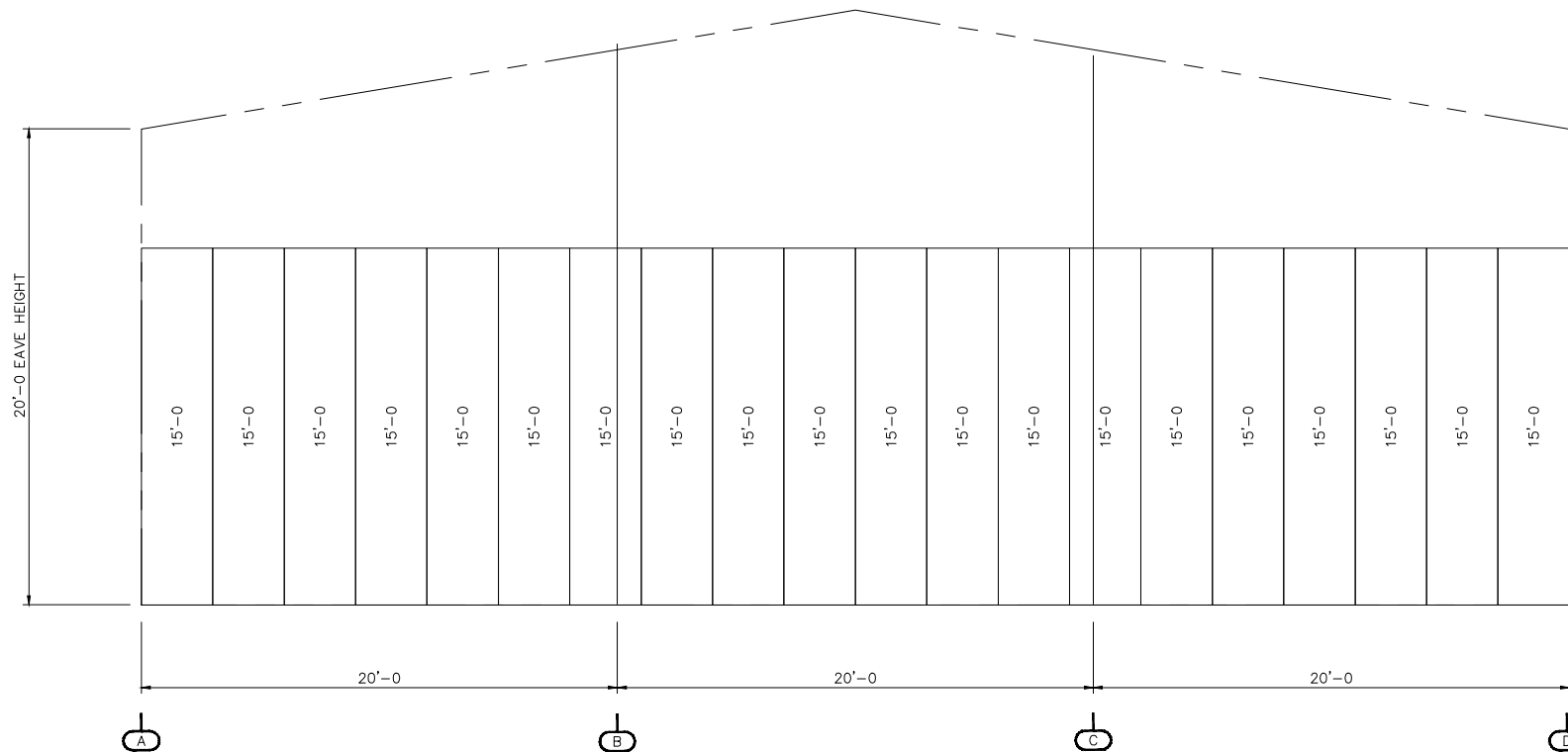
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A. SZILVESZTER, P.ENG
 ONTARIO P.ENG 100041568

Drawing has been digitally signed.



PBR WALL PANELS
 PANEL COVERAGE = 3'-0"
 COLOR = POLAR WHITE
 PANEL PKG. REQ'D. = PBS-5
 Field Cut Panel and Trim as
 required per Construction Details



LINER SHEETING ELEVATION "EWB"
 BLDG "A"

Revision	Date	Description	By	Ck'd
A	03/01/21	FOR CONSTRUCTION PERMIT	SRA	DLS

Robertson Building Systems
 1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413

Sheet Number: E8 of 17

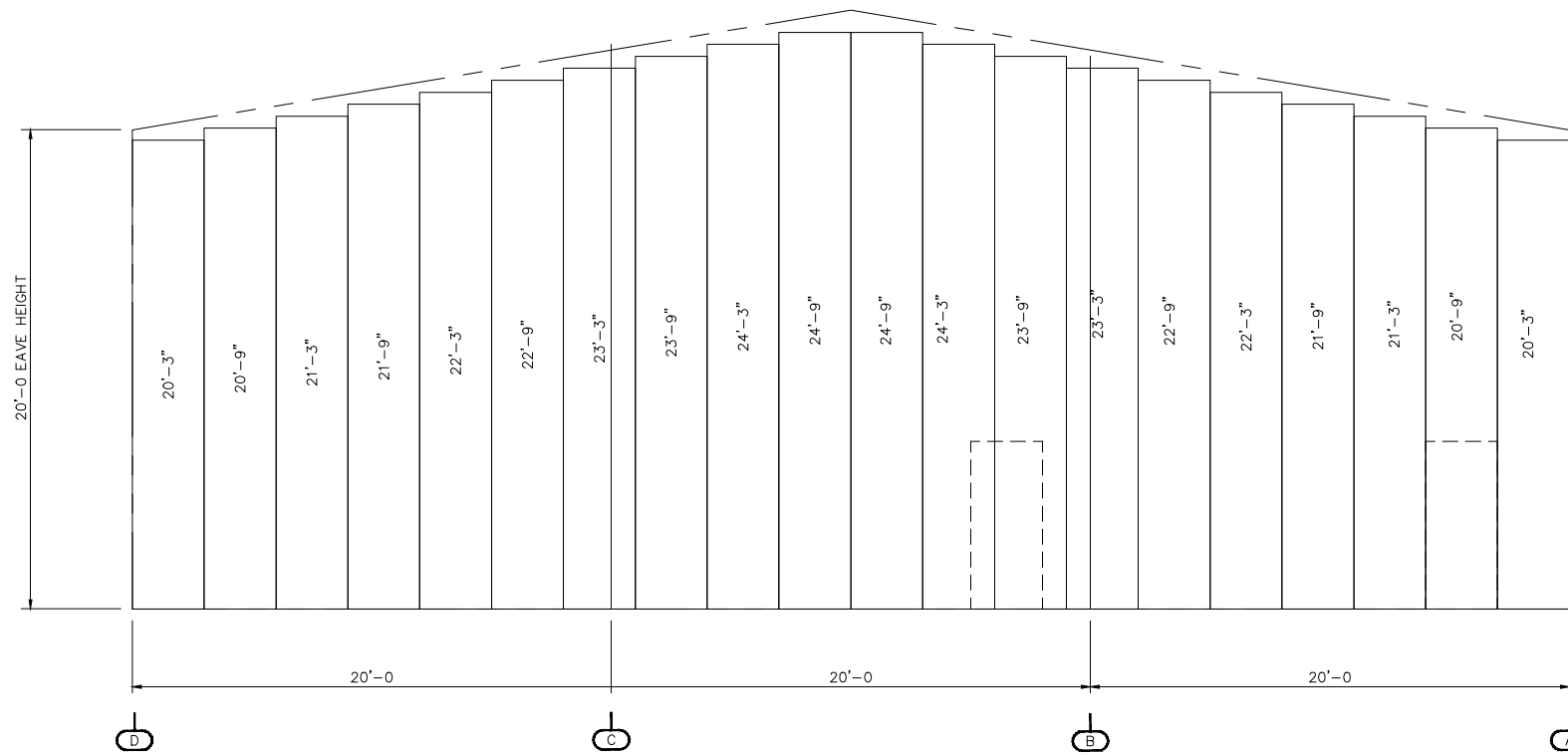
The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

A. SZILVESZTER, P.ENG
 ONTARIO P.ENG 100041568

Drawing has been digitally signed.



PBR WALL PANELS
 PANEL COVERAGE = 3'-0"
 COLOR = POLAR WHITE
 PANEL PKG. REQ'D. = PBS-8
 Field Cut Panel and Trim as
 required per Construction Details



LINER SHEETING ELEVATION "EWD"
 BLDG "A"

Revision	Date	Description	By	Ck'd
A	03/01/21	FOR CONSTRUCTION PERMIT	SRA	DLS

Robertson Building Systems
 1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413

Sheet Number: E9 of 17

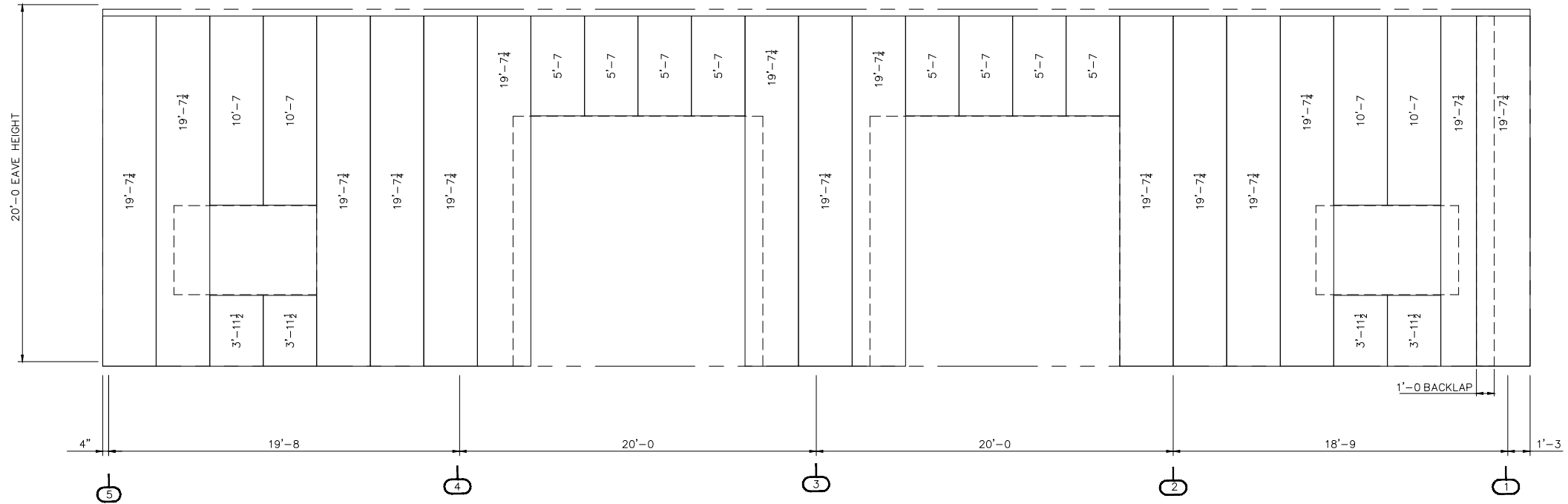
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A. SZILVESZTER, P.ENG
 ONTARIO P.ENG 100041568

Drawing has been digitally signed.



PBR WALL PANELS
 PANEL COVERAGE = 3'-0"
 COLOR = POLAR WHITE
 PANEL PKG. REQ'D. = PBS-6
 Field Cut Panel and Trim as
 required per Construction Details



LINER SHEETING ELEVATION "SWA"
 BLDG "A"

Revision	Date	Description	By	Ck'd
A	03/01/21	FOR CONSTRUCTION PERMIT	SRA	DLS

1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Robertson III.
 Robertson Building Systems

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E10 of 17

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 ONTARIO P.ENG 100041568

Drawing has been digitally signed.



PBR WALL PANELS
 PANEL COVERAGE = 3'-0"
 COLOR = POLAR WHITE
 PANEL PKG. REQ'D. = PBS-7
 Field Cut Panel and Trim as
 required per Construction Details



LINER SHEETING ELEVATION "SWC"
 BLDG "A"

Revision	Date	Description	By	Ck'd
A	03/01/21	FOR CONSTRUCTION PERMIT	SRA	DLS

Robertson
 Robertson Building Systems

1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

Drawing Status: Preliminary (Not For Construction) For Construction Permit For Eractor Installation

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E11 of 17

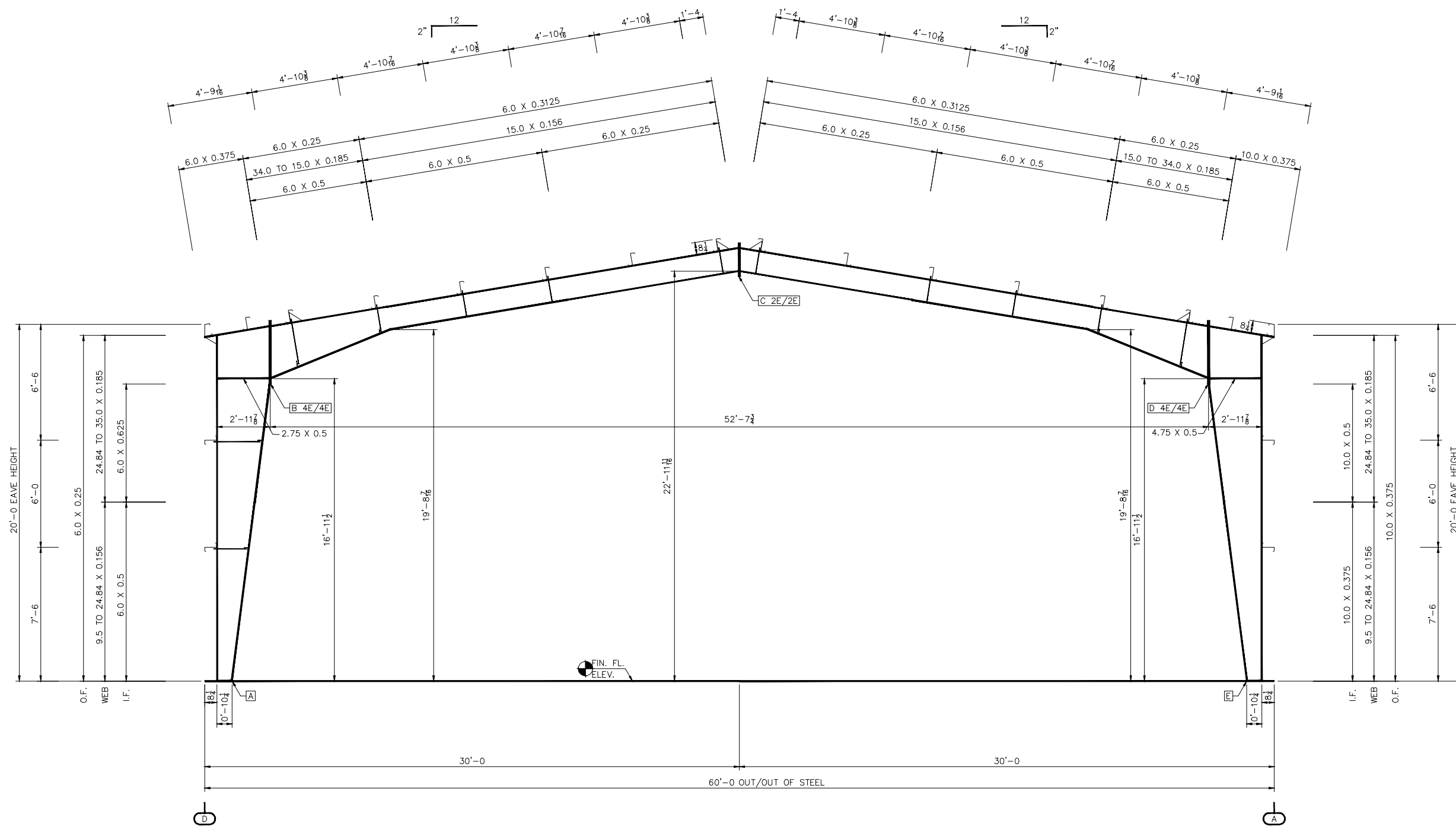
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 ONTARIO P.ENG 100041568

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GENERAL NOTES
 FRAME CLEARANCES SHOWN ARE APPROXIMATE AND
 MAY VARY DUE TO CONDITIONS (DEFLECTION).
 VERTICAL CLEARANCE DIMENSIONS ARE FROM
 FINISHED FLOOR REFERENCE ELEVATION.



CROSS SECTION AT FRAME LINE "1"

PLATE SIZE TABLE			SPLICE BOLT TABLE				
CONN.	LOW SIDE	HIGH SIDE	QTY.	SIZE	TYPE	HARDENED WASHERS	BEVELED WASHERS
A	6 X 0.375 X 0'-10 1/4						
B	6 X 0.625 X 3'-6 3/8	6 X 0.5 X 3'-5 7/8	(16)	3/4 X 2 1/4	A325 B&N	0	0
C	6 X 0.5 X 1'-10	6 X 0.5 X 1'-10	(8)	3/4 X 2"	A325 B&N	0	0
D	10 X 0.5 X 3'-6 3/8	6 X 0.5 X 3'-5 7/8	(16)	3/4 X 2"	A325 B&N	0	0
E	10 X 0.375 X 0'-10 1/4						

Revision	Date	Description
A	03/01/21	FOR CONSTRUCTION PERMIT

1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Robertson Building Systems

Customer: METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location: ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E12 of 17

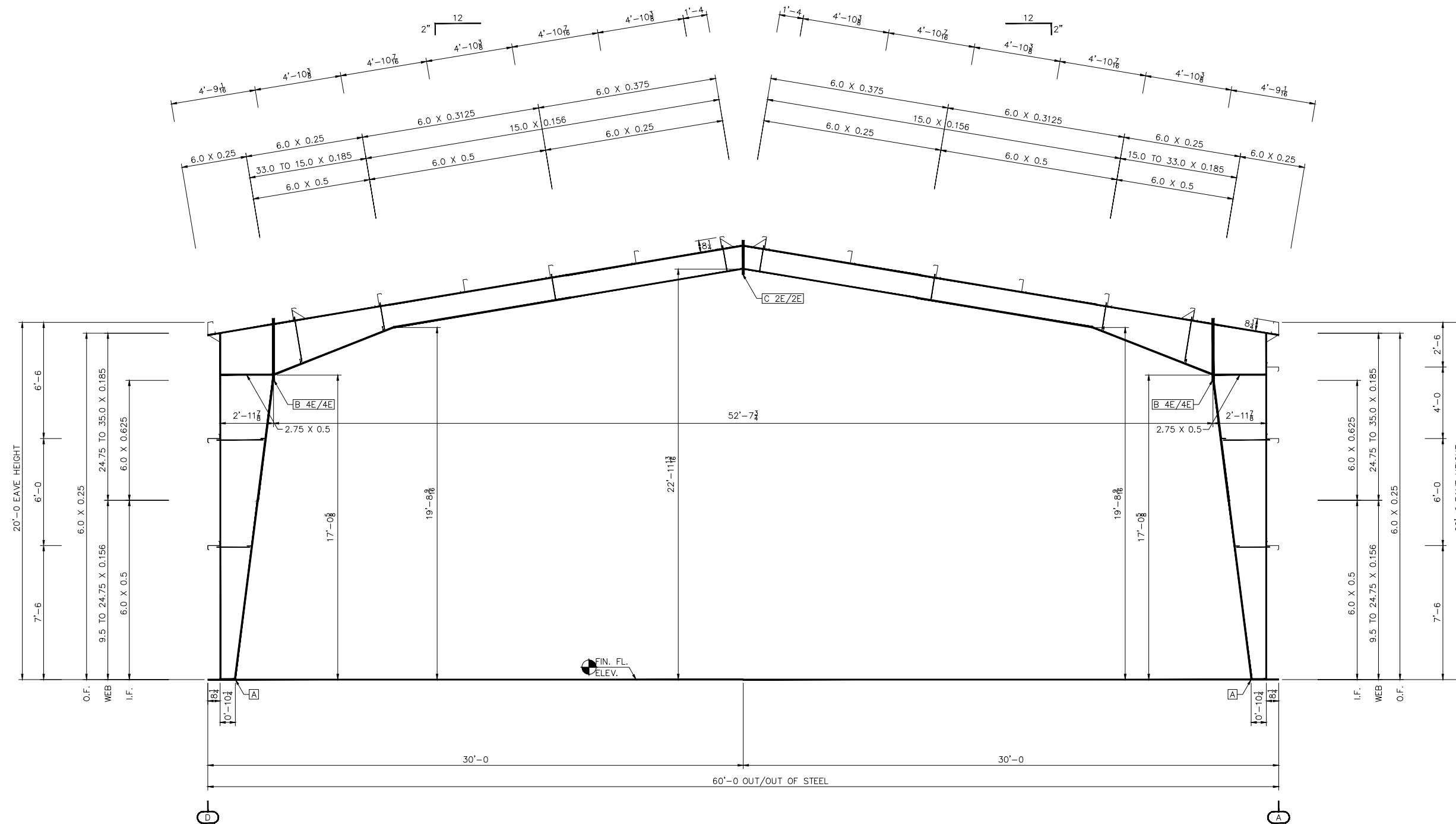
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 ONTARIO P.ENG 100041568

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CROSS SECTION AT FRAME LINE "2"

PLATE SIZE TABLE		SPLICE BOLT TABLE					
CONN.	LOW SIDE	HIGH SIDE	QTY.	SIZE	TYPE	HARDENED WASHERS	BEVELED WASHERS
A	6 X 0.375 X 0'-10 1/8						
B	6 X 0.625 X 3'-5 1/4	6 X 0.5 X 3'-4 1/4	(16)	3/4 X 2 1/2	A325 B&N	0	0
C	6 X 0.5 X 1'-10 1/8	6 X 0.5 X 1'-10 1/8	(8)	3/4 X 2"	A325 B&N	0	0

Revision	Date	Description	By	Checked
A	03/01/21	FOR CONSTRUCTION PERMIT	SRA	DLS

Robertson II.
 Robertson Building Systems

1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E13 of 17

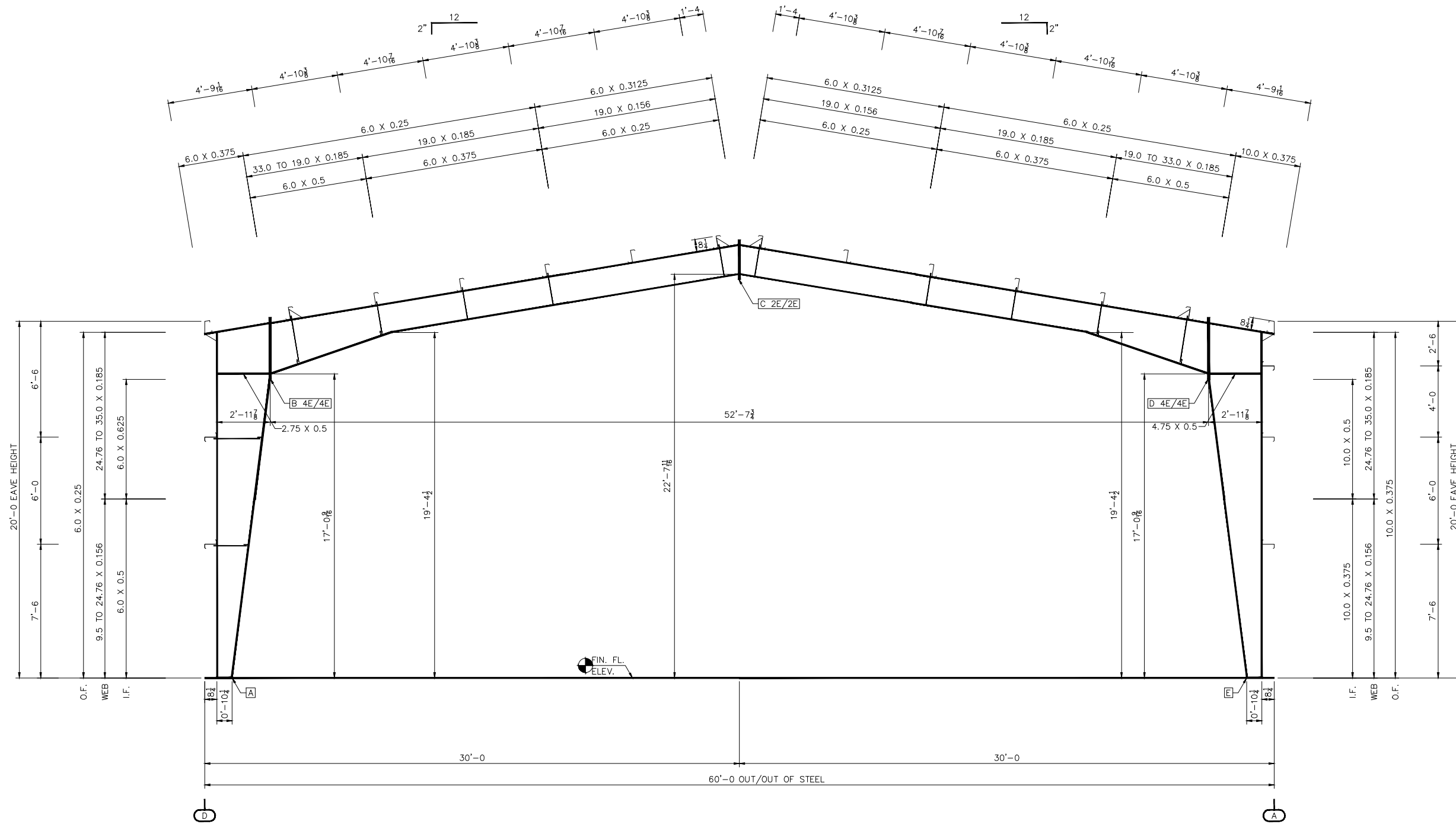
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 ONTARIO P.ENG 100041568

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CROSS SECTION AT FRAME LINE "3"

CONN.	PLATE SIZE TABLE		SPLICE BOLT TABLE				
	LOW SIDE	HIGH SIDE	QTY.	SIZE	TYPE	HARDENED WASHERS	BEVELED WASHERS
A	6 X 0.375 X 0'-10 1/4"						
B	6 X 0.625 X 3'-5 5/8"	6 X 0.5 X 3'-4 1/8"	(16)	3/4 X 2 1/4"	A325 B&N	0	0
C	6 X 0.5 X 2'-2 1/8"	6 X 0.5 X 2'-2 1/8"	(8)	3/4 X 2"	A325 B&N	0	0
D	10 X 0.5 X 3'-5 5/8"	6 X 0.5 X 3'-4 1/8"	(16)	3/4 X 2"	A325 B&N	0	0
E	10 X 0.375 X 0'-10 1/4"						

Revision	Date	Description
A	03/01/21	FOR CONSTRUCTION PERMIT

1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Robertson Building Systems

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E14 of 17

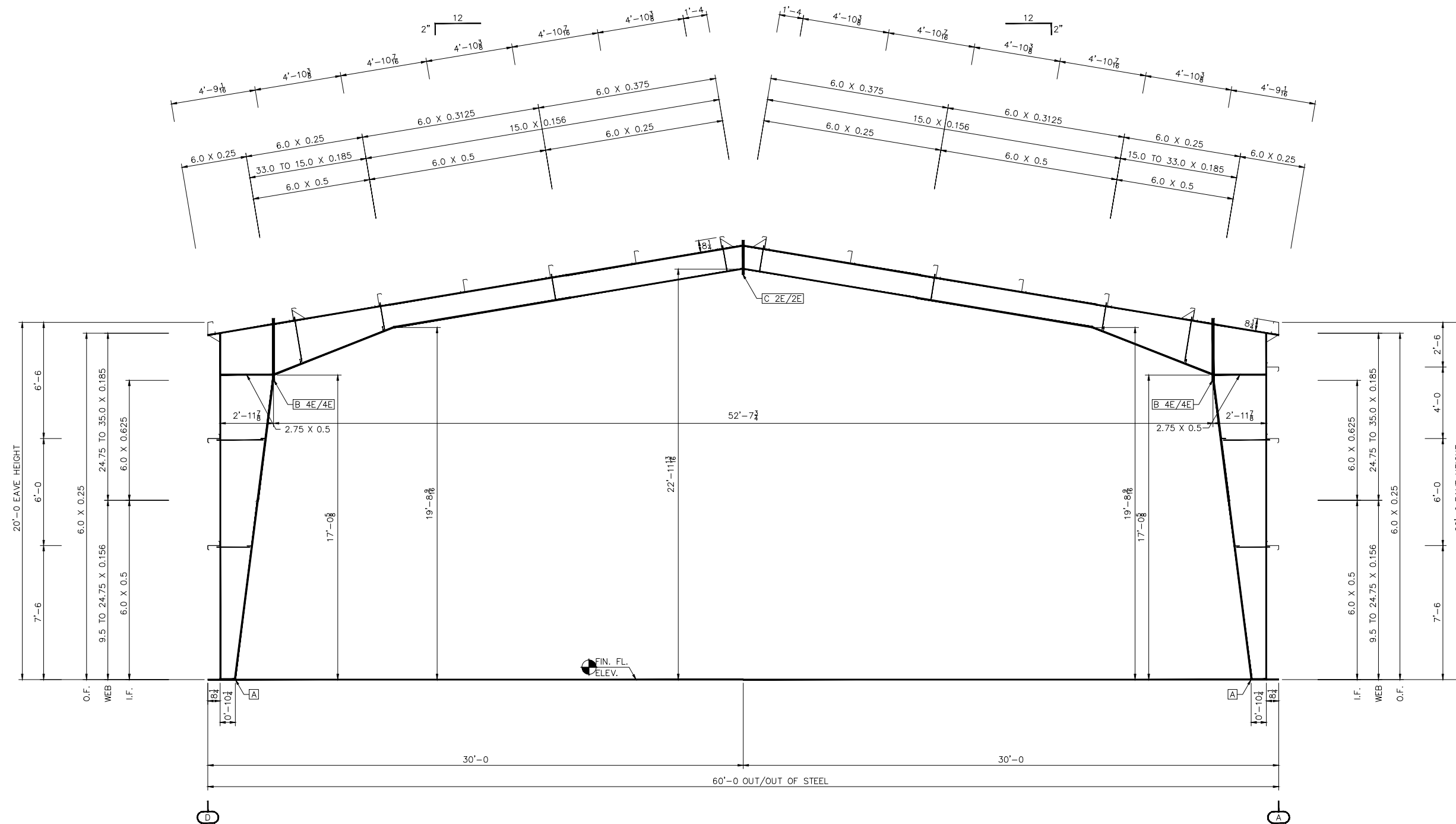
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 ONTARIO P.ENG 100041568

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CROSS SECTION AT FRAME LINE "4"

PLATE SIZE TABLE			SPLICE BOLT TABLE				
CONN.	LOW SIDE	HIGH SIDE	QTY.	SIZE	TYPE	HARDENED WASHERS	BEVELED WASHERS
A	6 X 0.375 X 0'-10 1/8						
B	6 X 0.625 X 3'-5 1/4	6 X 0.5 X 3'-4 1/4	(16)	3/4 X 2 1/2	A325 B&N	0	0
C	6 X 0.5 X 1'-10 1/8	6 X 0.5 X 1'-10 1/8	(8)	3/4 X 2"	A325 B&N	0	0

Revision	Date	Description	By	Checked
A	03/01/21	FOR CONSTRUCTION PERMIT	SRA	DLS

Robertson Building Systems
 1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E15 of 17

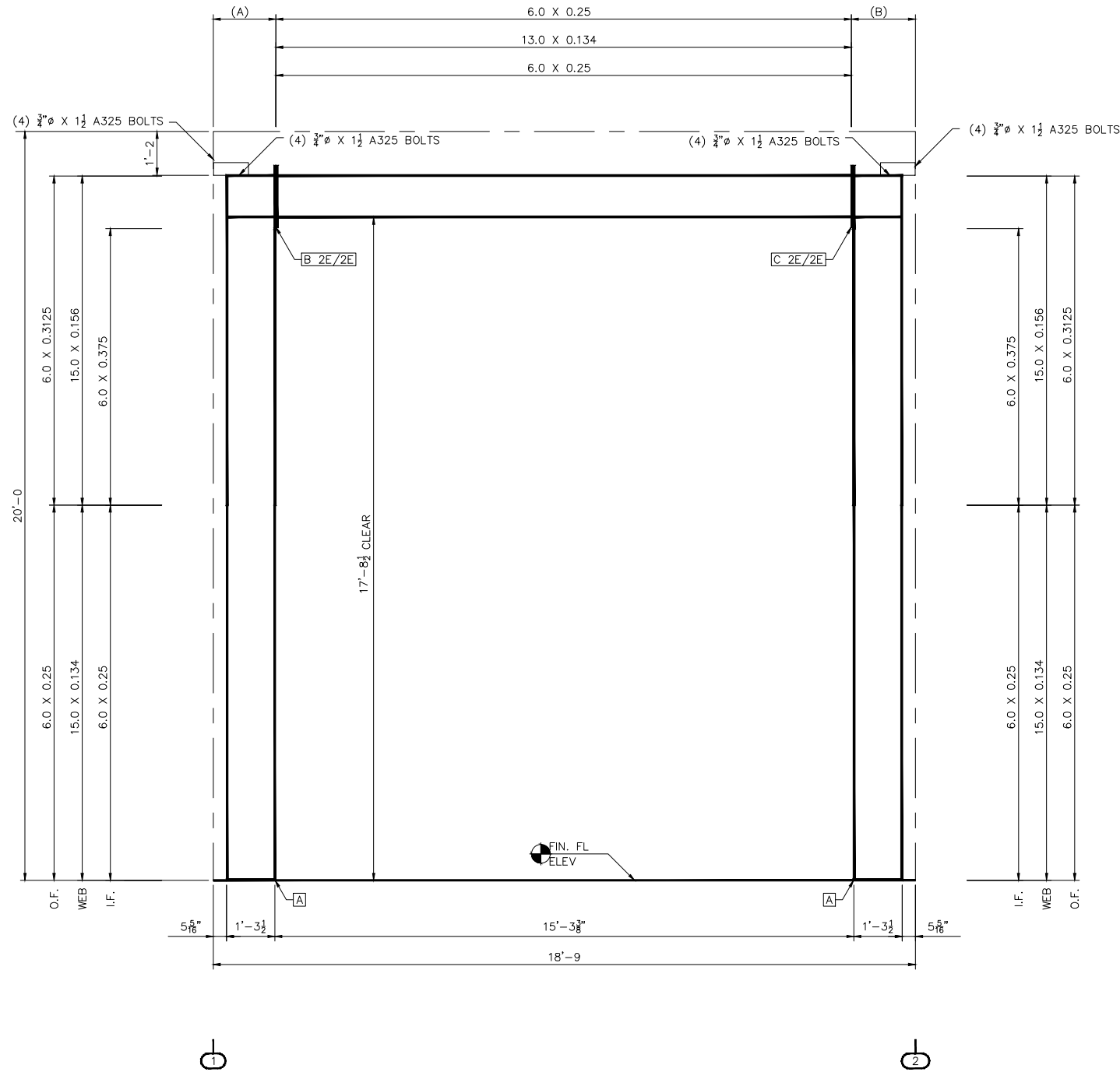
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 ONTARIO P.ENG 100041568

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CROSS SECTION AT PORTAL FRAME
 AT GRID LINE "A"

PLATE SIZES
 (A) 6.0 X 0.25
 (B) 6.0 X 0.25

PLATE SIZE TABLE		SPLICE BOLT TABLE					
CONN.	LOW SIDE	HIGH SIDE	QTY.	SIZE	TYPE	HARDENED WASHERS	BEVELED WASHERS
A	6" X 0.375 X 1'-3 1/8"						
B	6" X 0.5 X 1'-8 1/8"	6" X 0.5 X 1'-7 5/8"	(8)	3/4 X 2"	A325 B&N	0	0
C	6" X 0.5 X 1'-7 5/8"	6" X 0.5 X 1'-8 1/8"	(8)	3/4 X 2"	A325 B&N	0	0

Revision	Date	Description
A	03/01/21	FOR CONSTRUCTION PERMIT

Robertson Building Systems
 1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: E16 of 17

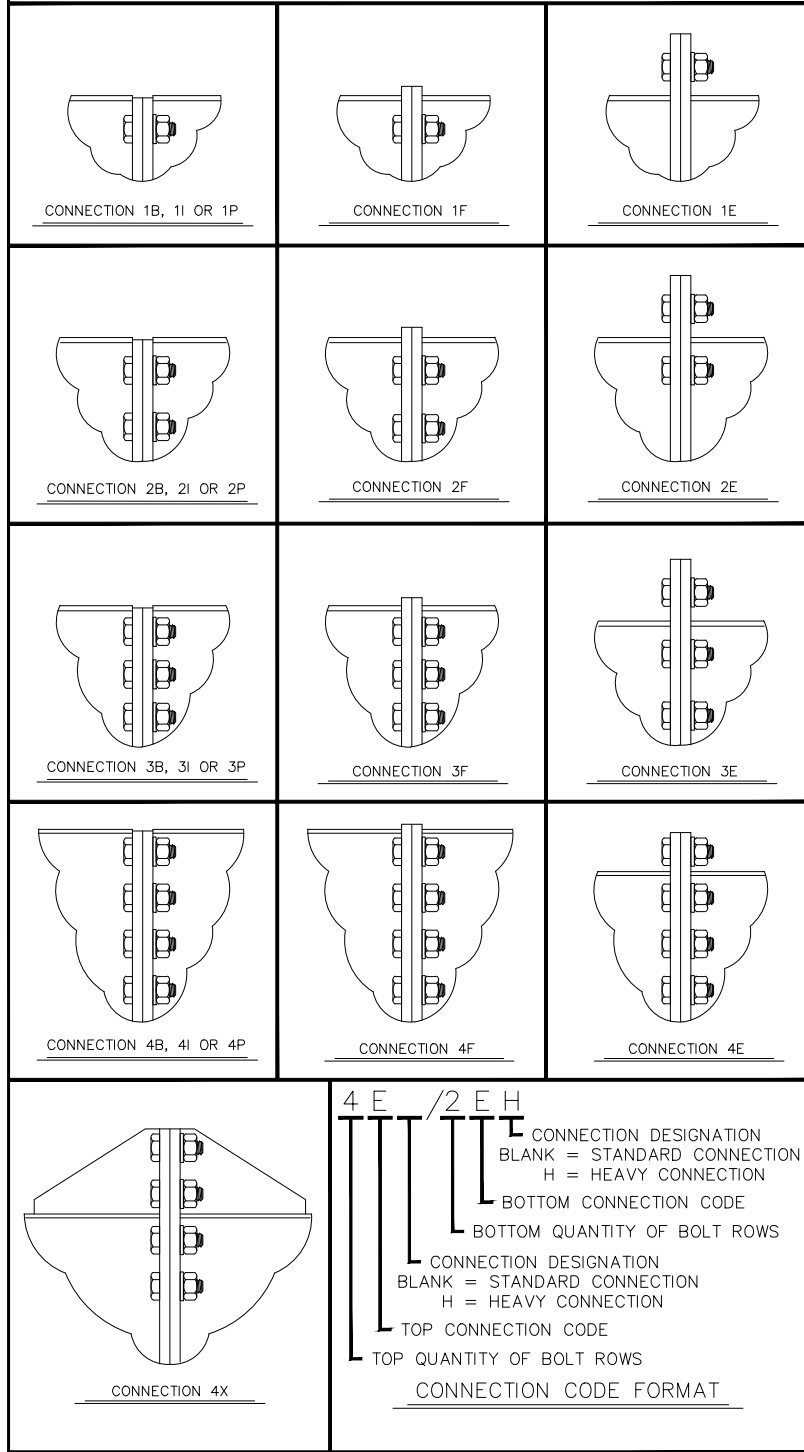
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 ONTARIO P.ENG 100041568

Drawing has been digitally signed.



CONNECTION CODES
(FOR TOP AND BOTTOM BOLT PATTERN)



CONNECTION CODE DESCRIPTION

B = THIS DESCRIPTION CODE IS USED TO DEFINE SHEAR CONNECTIONS. BOLTS ARE LOCATED INSIDE THE TOP FLANGE AND CONNECTION PLATE IS RECESSED 1/8" BELOW THE TOP FLANGE. CONNECTION PLATE LENGTH MUST BE A MINIMUM OF HALF THE RAFTER WEB DEPTH AND SHALL NOT EXCEED THE RAFTER TOTAL DEPTH.

E = THIS DESCRIPTION CODE IS USED TO DEFINE MOMENT CONNECTIONS. BOLTS ARE LOCATED WITH ONE SET OUTSIDE THE TOP OR BOTTOM FLANGE AND THE REMAINING SETS ARE LOCATED INSIDE THE TOP OR BOTTOM FLANGE.

F = THIS DESCRIPTION CODE IS USED TO DEFINE MOMENT CONNECTIONS. BOLTS ARE LOCATED INSIDE THE TOP OR BOTTOM FLANGE AND CONNECTION PLATE PROJECTS 1/2" BEYOND THE TOP OR BOTTOM FLANGE.

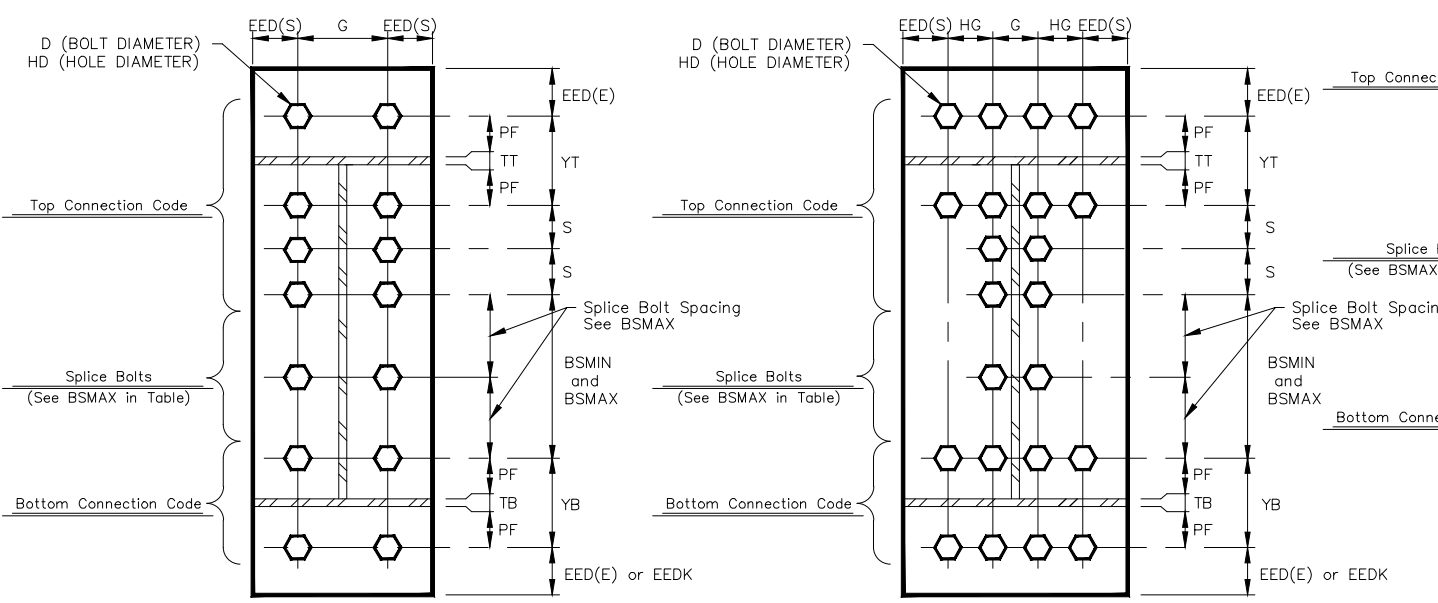
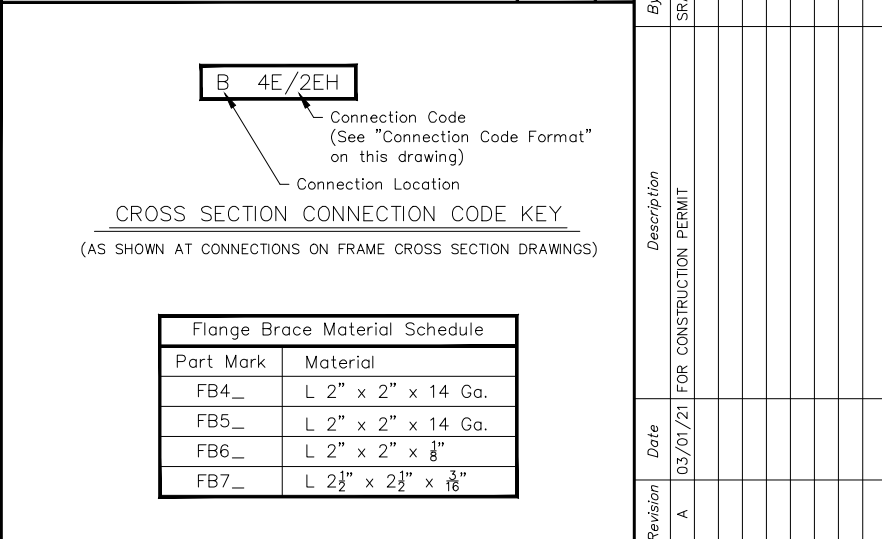
I = THIS DESCRIPTION CODE IS USED TO DEFINE MOMENT CONNECTIONS. BOLTS ARE LOCATED INSIDE THE TOP OR BOTTOM FLANGE AND CONNECTION PLATE IS RECESSED 1/8" BELOW THE TOP OR BOTTOM FLANGE.

P = THIS DESCRIPTION CODE IS USED TO DEFINE SHEAR CONNECTIONS. BOLTS ARE LOCATED INSIDE THE TOP FLANGE AND CONNECTION PLATE IS RECESSED 1/8" BELOW THE TOP FLANGE. CONNECTION PLATE LENGTH MUST BE A MINIMUM OF HALF THE RAFTER WEB DEPTH AND SHALL NOT EXCEED THE RAFTER TOTAL DEPTH.

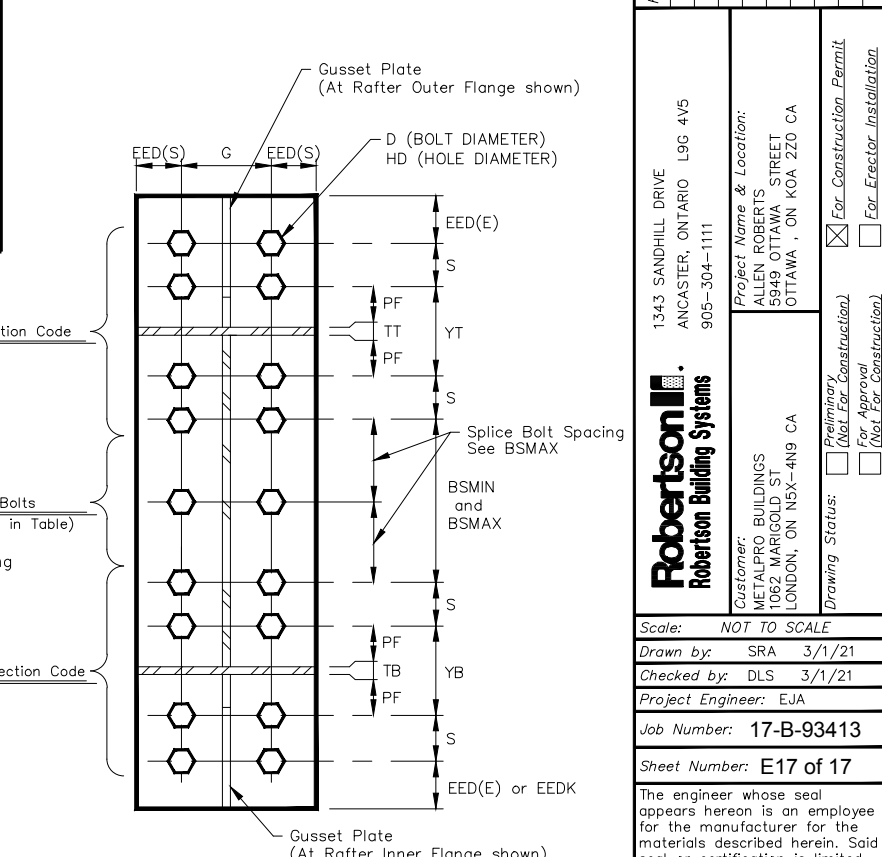
4X = THIS DESCRIPTION CODE IS USED TO DEFINE MOMENT CONNECTIONS. BOLTS ARE LOCATED WITH TWO SETS EACH SIDE OF THE TOP OR BOTTOM FLANGE WITH A GUSSET PLATE OUTSIDE THE TOP AND BOTTOM FLANGE OR COLUMN CAP PLATE.

CONNECTION BOLT DATA

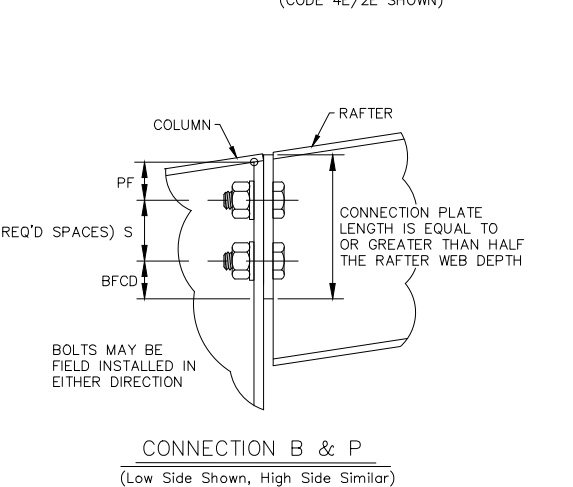
NAME	DESCRIPTION FOR A325 BOLT DIMENSIONS	A325 CONNECTION BOLT DIMENSIONS						
		1/2"	3/4"	7/8"	1"	1 1/4"	1 1/2"	
D	DIAMETER OF THE BOLT	1/2"	3/4"	7/8"	1"	1 1/4"	1 1/2"	
HD	BOLT HOLE DIAMETER	9/16"	13/16"	15/16"	1 1/16"	1 5/16"	1 9/16"	
G	BOLT GAUGE	2 1/2"	3"	4"	3 1/2"	4"	5 1/2"	
	MAX. WEB THICKNESS (Max. 5/16" Fillet Weld) WITHOUT WASHER	1"	1 1/8"	1 7/8"	1 1/4"	1 3/8"	2 1/8"	
	MAX. WEB THICKNESS (Max. 5/16" Fillet Weld) WITH WASHER	3/4"	7/8"	1 5/8"	7/8"	7/8"	1 7/8"	
HG	HEAVY CONN. BOLT GAUGE	N/A	2 1/4"	2 5/8"	3"	3 3/4"	4"	
S	NORMAL BOLT SPACING	2 1/2"	3"	3 1/4"	3 1/2"	4"	4 1/2"	
BSMIN	MINIMUM SPACING BETWEEN TOP & BOTTOM SETS OF BOLTS	1 1/2"	2 1/4"	2 5/8"	3"	3 3/4"	4"	
BSMAX	MAXIMUM BOLT SPACING BETWEEN TOP AND BOTTOM SETS OF BOLTS ON CONNECTION PLATES LESS THAN OR EQUAL TO 3/4" THICK	SPLICE BOLT SPACING (NOT TO EXCEED 2'-0")						
		{ 1/2 BSMAX (±1/8") WHEN BSMAX = 2'-0 1/8" TO 4'-0 { 1/3 BSMAX (±1/8") WHEN BSMAX = 4'-0 1/8" TO 6'-0 { 1/4 BSMAX (±1/8") WHEN BSMAX = 6'-0 1/8" TO 8'-0						
BFGD	MINIMUM BOLT-TO-FLANGE CLEARANCE AT OUT OF NUT SEE BOLT AT FLANGE DETAIL	1 1/2"	1 3/4"	1 7/8"	2 1/4"	2 1/2"	2 3/4"	
PF	MINIMUM BOLT-TO-FLANGE CLEARANCE AT CONNECTION PLATE SEE BOLT AT FLANGE DETAIL	(BFGD + RNWT) PF INSIDE OF FLANGE IS INCREASED BASED ON THE YT & YB VALUE. PF FOR CONNECTION B, F, I AND P ARE THE SAME AS USED ON CONNECTION E						
NWT	NUT AND WASHER THICKNESS	SEE BOLT AT FLANGE DETAIL. NUT THICKNESS IS EQUAL TO THE BOLT DIAMETER AND .15625" WASHER THICKNESS IS USED EVEN IF A WASHER IS NOT REQUIRED.						
RNWT	RISE ON NUT AND WASHER THICKNESS	REFER TO FRAME CROSS SECTION DRAWING FOR LARGEST FLANGE THICKNESS EITHER SIDE OF THE CONNECTION.						
TT	THICKNESS TOP FLANGE							
TB	THICKNESS BOTTOM FLANGE							
YT	BOLT SPACING TOP (ROUND UP TO NEXT 1/2", MIN = S)	3" + TT	3 1/2" + TT	3 3/4" + TT	4 1/2" + TT	5" + TT	5 1/2" + TT	
YB	BOLT SPACING BOTTOM (ROUND UP TO NEXT 1/2", MIN = S)	or TB Sloped	or TB Sloped	or TB Sloped	or TB Sloped	or TB Sloped	or TB Sloped	
EED(E)	MINIMUM END EDGE DIMENSION	1 1/4"	1 1/4"	1 1/2"	1 3/4"	2 1/4"	2 5/8"	
EED(S)	MINIMUM SIDE EDGE DIMENSION	3/4"	1"	1 1/8"	1 1/4"	1 5/8"	2 1/4"	
EEDK	END EDGE DIMENSION AT KNEE CONNECTION	1 3/8"	1 3/8"	1 5/8"	1 7/8"	2 3/8"	2 3/4"	
BCWM	MINIMUM BOLT CLEARANCE FROM A FLANGE OR WEB WELD	WITHOUT WASHER	7/16"	5/8"	3/4"	13/16"	1"	1 3/8"
		WITH HARDENED WASHER	9/16"	3/4"	7/8"	1"	1 1/4"	1 1/2"
WCSM	MINIMUM WIDTH OF CONNECTION PLATE (Standard Connection)	5"	6"	8"	8"	10"	12"	
WCHM	MINIMUM WIDTH OF CONNECTION PLATE (Heavy Connection)	N/A	10"	12"	12"	16"	18"	
TCMIN	MINIMUM THICKNESS OF CONNECTION PLATE	1/4"	3/8"	7/16"	1/2"	5/8"	1"	



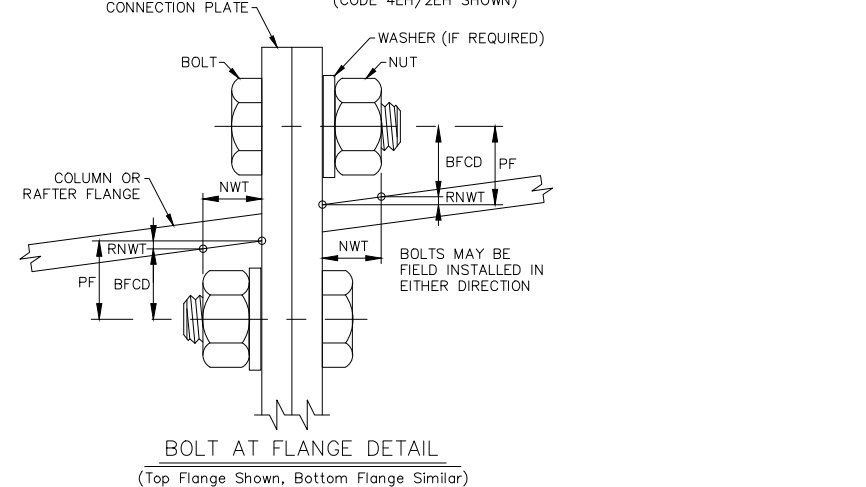
STANDARD CONNECTION DESIGNATION (CODE 4E/2E SHOWN)
HEAVY CONNECTION DESIGNATION (CODE 4EH/2EH SHOWN)



4X CONNECTION DESIGNATION (CODE 4X/4X SHOWN)



CONNECTION B & P
(Low Side Shown, High Side Similar)



BOLT AT FLANGE DETAIL
(Top Flange Shown, Bottom Flange Similar)

1343 SANDHILL DRIVE
ANCASTER, ONTARIO L9G 4V5
905-304-1111

Robertson Building Systems

Customer: METALPRO BUILDINGS
1062 MARGOLD ST
LONDON, ON N5X-4N9 CA

Project Name & Location: ALLEN ROBERTS
5949 OTTAWA STREET
OTTAWA, ON K0A 2Z0 CA

Scale: NOT TO SCALE
Drawn by: SRA 3/1/21
Checked by: DLS 3/1/21
Project Engineer: EJA
Job Number: 17-B-93413
Sheet Number: E17 of 17

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ONTARIO P.ENG 100041568

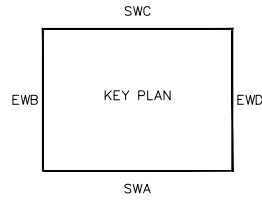
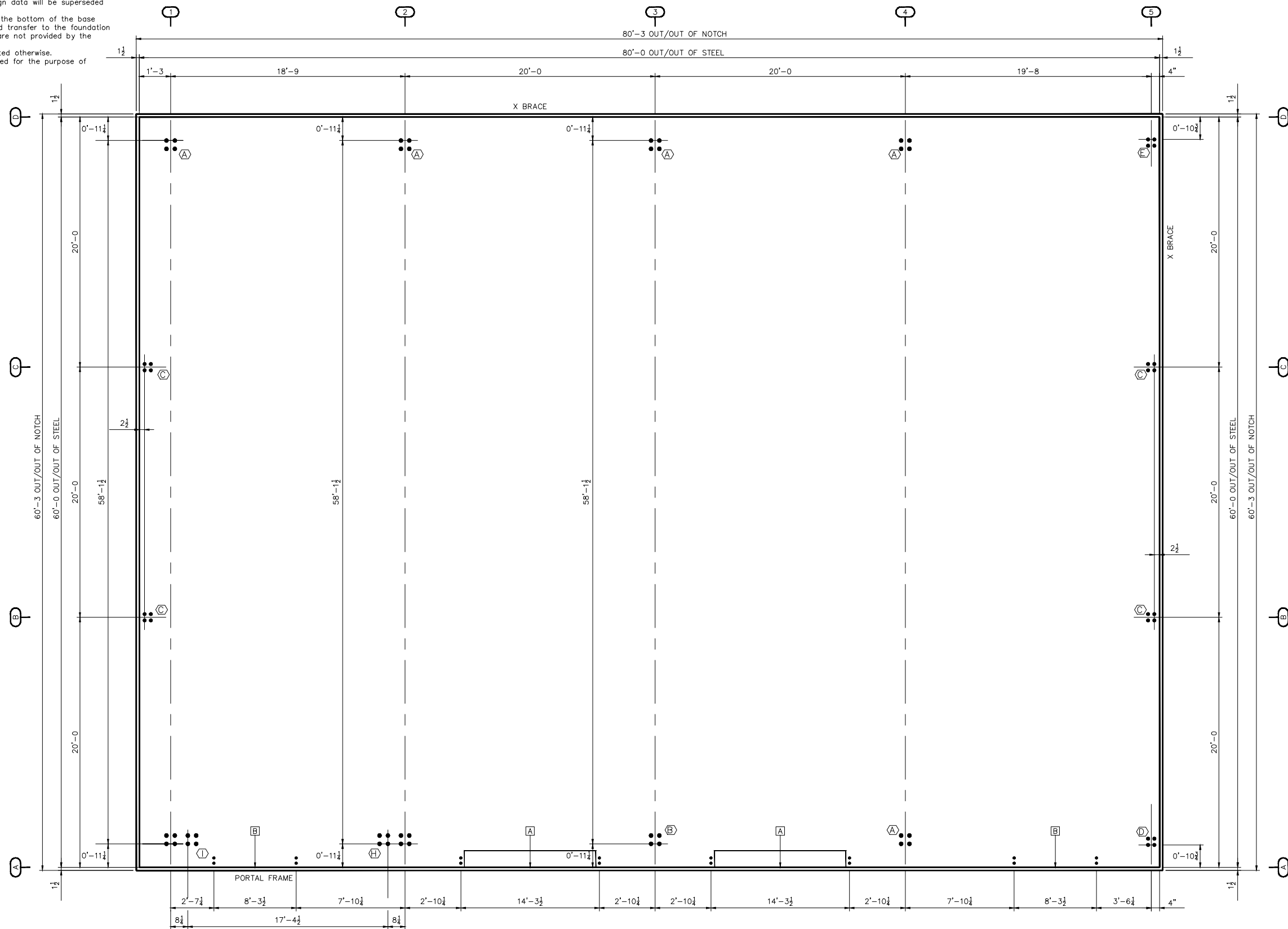
Drawing Status: Preliminary (Not For Construction) For Construction Permit For Approval (Not For Construction) For Erector Installation

Drawing has been digitally signed.

Anchor Rod Drawings

- 1) This drawing is for anchor rod placement only and is not foundation design.
- 2) Foundation must be square and level with all anchor rods true in size, location, and projection.
- 3) Projection shown must be held to keep threads clear of finished concrete.
- 4) This structural design data includes magnitude and location of design loads and support conditions, material properties, and type and size of major structural members necessary to show compliance with the Order Documents at the time of this issue. Any change to building loads or dimensions may change structural member sizes and locations shown. This structural design data will be superseded and voided by any future mailing.
- 5) Anchor rod size is determined by shear and tension at the bottom of the base plate. The length of the anchor rod and method of load transfer to the foundation are to be determined by the foundation engineer, and are not provided by the manufacturer.
- 6) Anchor rods are ASTM F1554 Gr. 36 material unless noted otherwise.
- 7) 3000 psi concrete compressive strength (f_c) is assumed for the purpose of column base plate design unless otherwise noted.

FINISH FLOOR AT ELEVATION 100'-0"



ANCHOR ROD DESCRIPTION	QUANTITY
3/8" Ø DIAMETER X	40
1/2" Ø DIAMETER X	40

ACCESSORY SCHEDULE			
MARK	DESCRIPTION	DETAIL	QUAN.
A	14'-0" X 14'-0" FRAMED OPENINGS	(G)	2
B	8'-0" X 5'-0" FRAMED OPENINGS	(F)	2

ANCHOR ROD SETTING PLAN

Revision	Date	Description
0	03/01/21	FOR ERECTOR INSTALLATION

Robertson Building Systems
 1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: F1 of 4

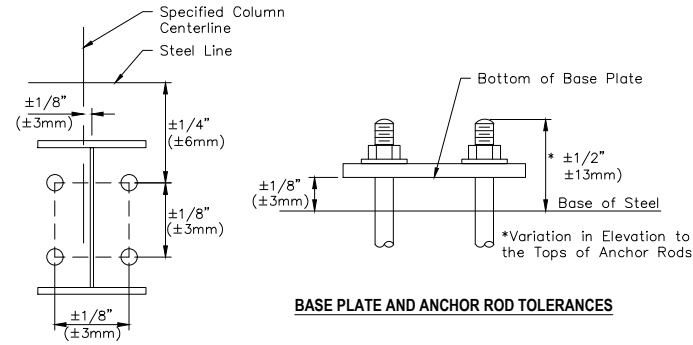
The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

A. SZILVESZTER, P.ENG
 ONTARIO P.ENG 100041568

Drawing has been digitally signed.

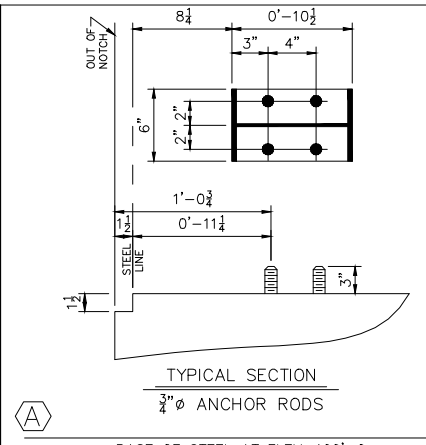


AISC CODE OF STANDARD PRACTICE TOLERANCES FOR SETTING ANCHOR RODS



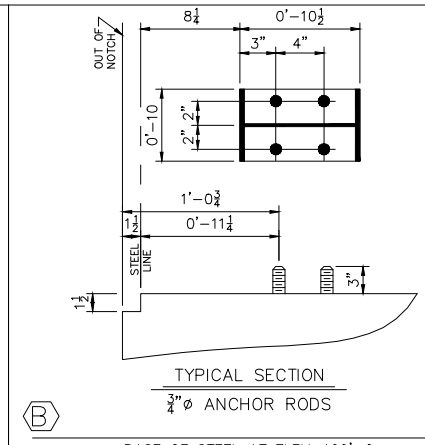
BASE PLATE AND ANCHOR ROD TOLERANCES

ANCHOR ROD SETTING TOLERANCES



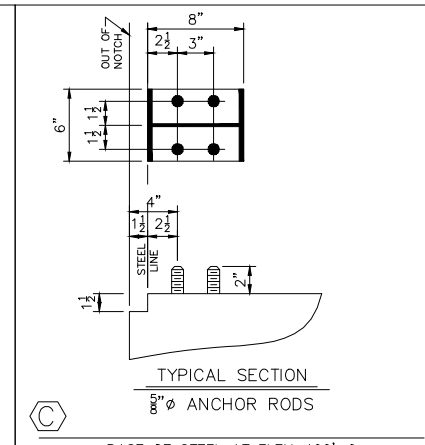
TYPICAL SECTION
3/4" ϕ ANCHOR RODS

BASE OF STEEL AT ELEV. 100'-0



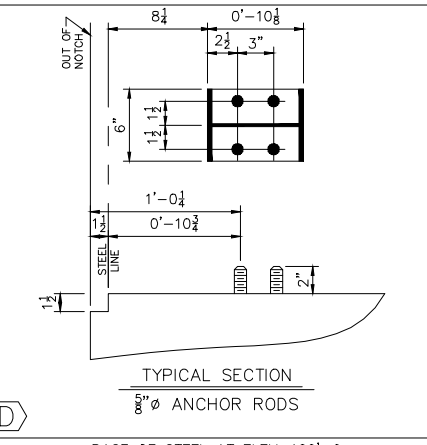
TYPICAL SECTION
3/4" ϕ ANCHOR RODS

BASE OF STEEL AT ELEV. 100'-0



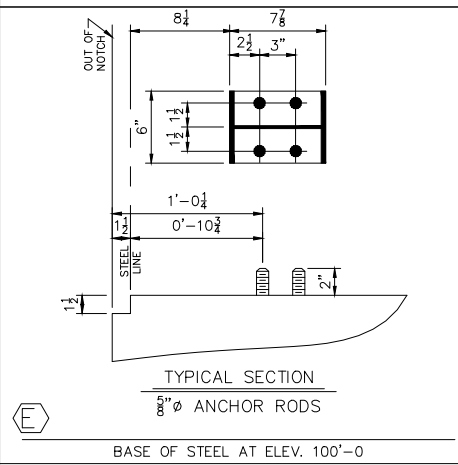
TYPICAL SECTION
8" ϕ ANCHOR RODS

BASE OF STEEL AT ELEV. 100'-0



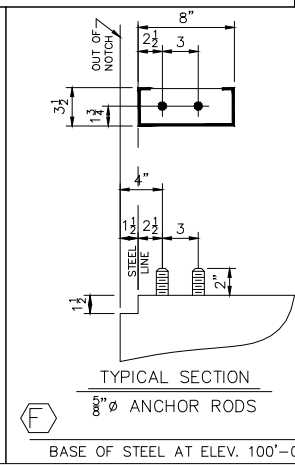
TYPICAL SECTION
8" ϕ ANCHOR RODS

BASE OF STEEL AT ELEV. 100'-0



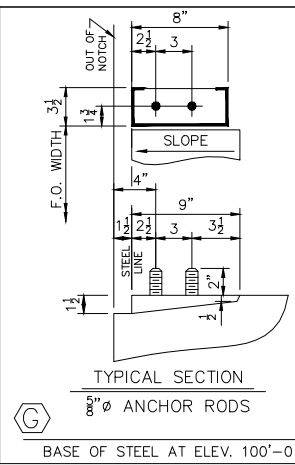
TYPICAL SECTION
8" ϕ ANCHOR RODS

BASE OF STEEL AT ELEV. 100'-0



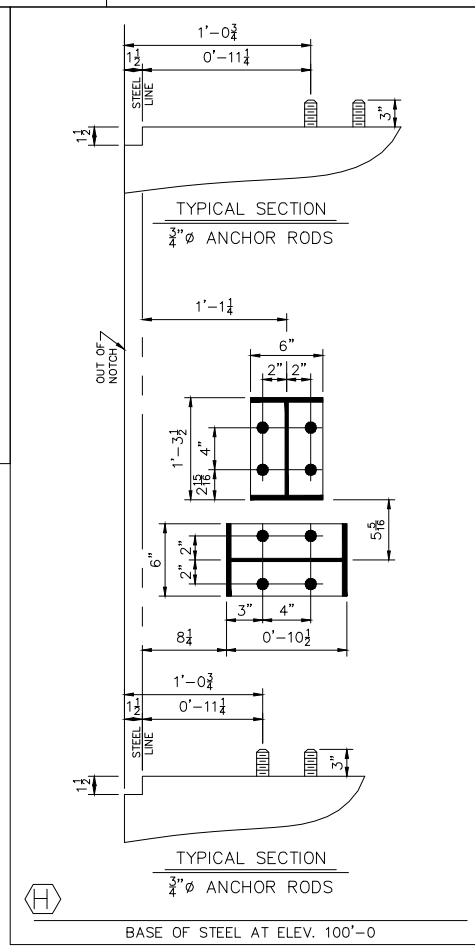
TYPICAL SECTION
8" ϕ ANCHOR RODS

BASE OF STEEL AT ELEV. 100'-0



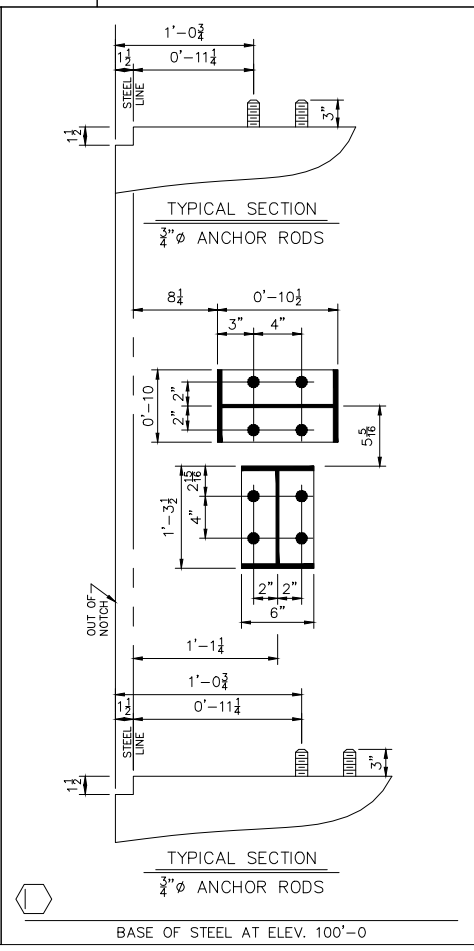
TYPICAL SECTION
8" ϕ ANCHOR RODS

BASE OF STEEL AT ELEV. 100'-0



TYPICAL SECTION
3/4" ϕ ANCHOR RODS

BASE OF STEEL AT ELEV. 100'-0



TYPICAL SECTION
3/4" ϕ ANCHOR RODS

BASE OF STEEL AT ELEV. 100'-0

Revision	Date	Description
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1343 SANDHILL DRIVE
ANCASTER, ONTARIO L9G 4V5
905-304-1111

Robertson Building Systems

Customer: METALPRO BUILDINGS
1062 MARGOLD ST
LONDON, ON N5X-4N9 CA

Project Name & Location:
ALLEN ROBERTS
5949 OTTAWA STREET
OTTAWA, ON K0A 2Z0 CA

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

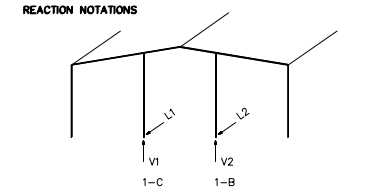
Scale: NOT TO SCALE
Drawn by: SRA 3/1/21
Checked by: DLS 3/1/21
Project Engineer: EJA
Job Number: 17-B-93413
Sheet Number: F2 of 4

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ONTARIO P.ENG 100041568

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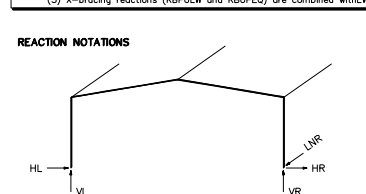


LOAD GROUP REACTION TABLE

COLUMN	1-C			1-B		
LOAD GROUP	HL	V1	L1	H2	V2	L2
D	0.	0.3	0.	0.	0.3	0.
W+	0.	0.	4.0	0.	0.	4.0
W-	0.	0.	-3.8	0.	0.	-3.8
E+	0.	0.	0.1	0.	0.	0.1
E-	0.	0.	-0.1	0.	0.	-0.1

LOAD GROUP DESCRIPTION

D : DEAD LOAD
 W+ : WIND LOAD AS AN INWARD ACTING PRESSURE
 W- : WIND LOAD AS AN OUTWARD ACTING SUCTION
 E+ : EARTHQUAKE FORCE ACTING INWARD
 E- : EARTHQUAKE FORCE ACTING OUTWARD

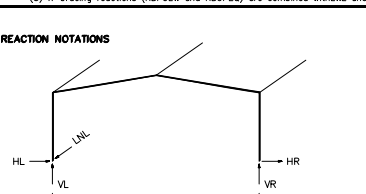


LOAD GROUP REACTION TABLE GRIDLINES * = 1

COLUMN	*-D			*-A		
LOAD GROUP	HL	VL	LNL	HR	VR	LNR
DL	1.2	2.8	0.0	-1.2	3.0	0.0
COLL	0.2	0.3	0.0	-0.2	0.3	0.0
PAR1	7.3	22.1	0.0	-7.3	22.0	0.0
PAR2	7.3	7.0	0.0	-7.3	22.1	0.0
SNOW	14.6	29.1	0.0	-14.6	29.1	0.0
LL	6.3	12.6	0.0	-6.3	12.6	0.0
EQ	-1.7	-1.0	0.0	-1.7	1.0	0.0
WL1	-5.8	-7.9	0.0	0.6	-4.4	0.0
WL2	-6.2	-10.8	0.0	1.0	-7.3	0.0
WL3	-5.2	-3.6	0.0	0.0	-0.1	0.0
LWL1	-1.1	-6.8	0.0	1.8	-5.2	-2.1
LWL2	-1.5	-9.7	0.0	2.2	-8.1	-2.1
LWL3	-0.5	-2.5	0.0	1.2	-0.9	2.1
LWL4	-1.8	-5.2	0.0	1.1	-6.8	2.1
LWL5	-2.2	-8.1	0.0	1.5	-9.6	0.0
LWL6	-1.2	-0.9	0.0	0.5	-2.4	0.0
WL4	-0.7	-4.5	0.0	5.9	7.9	0.0
WL5	-1.0	-7.3	0.0	6.2	-10.7	0.0
WL6	-0.1	-0.1	0.0	5.3	-3.5	0.0

LOAD GROUP DESCRIPTION

DL : Roof Dead Load
 COLL : Roof Collateral Load
 PAR1 : Partial Load [PARxx]
 PAR2 : Partial Load [PARxx]
 SNOW : Roof Snow Load
 LL : Roof Live Load
 EQ : Lateral Seismic Load [parallel to plane of frame]
 WL1 : Wind from Left to Right without CpIGj
 WL2 : Wind from Left to Right with CpIGj
 WL3 : Wind from Left to Right with -CpIGj
 LWL1 : Wind from Back to Front without CpIGj
 LWL2 : Wind from Back to Front with CpIGj
 LWL3 : Wind from Back to Front with -CpIGj
 LWL4 : Wind from Front to Back without CpIGj
 LWL5 : Wind from Front to Back with CpIGj
 LWL6 : Wind from Front to Back with -CpIGj
 WL4 : Wind from Right to Left without CpIGj
 WL5 : Wind from Right to Left with CpIGj
 WL6 : Wind from Right to Left with -CpIGj

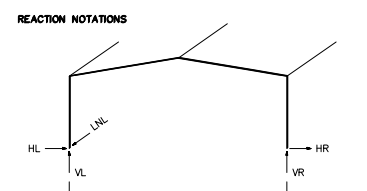


LOAD GROUP REACTION TABLE GRIDLINES * = 3

COLUMN	*-D			*-A		
LOAD GROUP	HL	VL	LNL	HR	VR	LNR
DL	1.1	2.6	0.0	-1.1	3.0	0.0
COLL	0.1	0.3	0.0	-0.1	0.3	0.0
PAR1	7.1	22.1	0.0	-7.1	7.0	0.0
PAR2	7.1	7.0	0.0	-7.1	22.1	0.0
SNOW	14.2	29.1	0.0	-14.2	29.1	0.0
LL	6.1	12.6	0.0	-6.1	12.6	0.0
RBUPEQ	0.0	-6.5	-6.4	-0.0	0.0	0.0
RBDWEQ	-0.0	6.5	0.0	0.0	-0.0	0.0
EQ	-1.7	-1.1	0.0	-1.7	1.1	0.0
WL1	-4.6	-6.3	0.0	0.4	-3.6	0.0
WL2	-4.9	-9.1	0.0	0.8	-6.5	0.0
WL3	-4.0	-1.9	0.0	-0.1	0.7	0.0
WL4	-0.5	-3.6	0.0	4.8	-6.2	0.0
WL5	-0.8	-6.5	0.0	5.0	-9.1	0.0
WL6	0.1	0.7	0.0	4.1	-1.9	0.0
LWL1	-0.6	-5.4	0.0	1.1	-4.2	0.0
RBPULW	0.0	-3.8	-3.8	-0.0	0.0	0.0
LWL2	-1.0	-8.3	0.0	1.5	-7.1	0.0
LWL3	-0.1	-1.1	0.0	0.6	0.1	0.0
LWL4	-1.1	-4.2	0.0	0.6	-5.4	0.0

LOAD GROUP DESCRIPTION

DL : Roof Dead Load
 COLL : Roof Collateral Load
 PAR1 : Partial Load [PARxx]
 PAR2 : Partial Load [PARxx]
 SNOW : Roof Snow Load
 LL : Roof Live Load
 RBUPEQ : Upward Acting Rod Brace Load from Long. Seismic
 RBDWEQ : Downward Acting Rod Brace Load from Long. Seismic
 EQ : Lateral Seismic Load [parallel to plane of frame]
 WL1 : Wind from Left to Right without CpIGj
 WL2 : Wind from Left to Right with CpIGj
 WL3 : Wind from Left to Right with -CpIGj
 WL4 : Wind from Right to Left without CpIGj
 WL5 : Wind from Right to Left with CpIGj
 WL6 : Wind from Right to Left with -CpIGj
 LWL1 : Wind from Back to Front without CpIGj
 LWL2 : Wind from Back to Front with CpIGj
 LWL3 : Wind from Back to Front with -CpIGj
 LWL4 : Wind from Front to Back without CpIGj

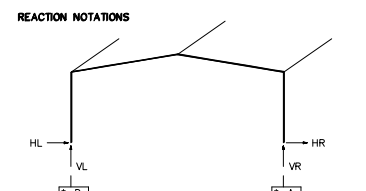


LOAD GROUP REACTION TABLE GRIDLINES * = 3

COLUMN	*-D			*-A		
LOAD GROUP	HL	VL	LNL	HR	VR	LNR
LWL5	-1.5	-7.1	0.0	1.0	-8.2	0.0
LWL6	-0.5	0.1	0.0	0.1	-1.1	0.0
RBDWLW	-0.0	3.8	0.0	0.0	-0.0	0.0

LOAD GROUP DESCRIPTION

LWL5 : Wind from Front to Back with CpIGj
 LWL6 : Wind from Front to Back with -CpIGj
 RBDWLW : Downward Acting Rod Brace Load from Long. Wind



LOAD GROUP REACTION TABLE GRIDLINES * = 2, 4

COLUMN	*-D			*-A		
LOAD GROUP	HL	VL	LNL	HR	VR	LNR
DL	1.1	2.7	0.0	-1.1	2.7	0.0
COLL	0.1	0.3	0.0	-0.1	0.3	0.0
PAR1	7.1	21.9	0.0	-7.1	6.9	0.0
PAR2	7.1	6.9	0.0	-7.1	21.9	0.0
SNOW	14.2	28.9	0.0	-14.2	28.9	0.0
LL	6.2	12.5	0.0	-6.2	12.5	0.0
EQ	-1.7	-1.0	0.0	-1.7	1.0	0.0
WL1	-5.7	-7.8	0.0	0.6	-4.4	0.0
WL2	-6.1	-10.7	0.0	0.9	-7.3	0.0
WL3	-5.2	-3.5	0.0	0.0	-0.1	0.0
LWL1	-1.1	-6.7	0.0	1.7	-5.2	0.0
LWL2	-1.4	-9.6	0.0	2.1	-8.0	0.0
LWL3	-0.5	-2.4	0.0	1.2	-0.9	0.0
LWL4	-1.7	-5.2	0.0	1.1	-6.7	0.0
LWL5	-2.1	-8.0	0.0	1.4	-9.6	0.0
LWL6	-1.2	-0.9	0.0	0.5	-2.4	0.0
WL4	-0.6	-4.4	0.0	5.7	-7.8	0.0
WL5	-0.9	-7.3	0.0	6.1	-10.7	0.0
WL6	-0.0	-0.1	0.0	5.2	-3.5	0.0

LOAD GROUP DESCRIPTION

DL : Roof Dead Load
 COLL : Roof Collateral Load
 PAR1 : Partial Load [PARxx]
 PAR2 : Partial Load [PARxx]
 SNOW : Roof Snow Load
 LL : Roof Live Load
 EQ : Lateral Seismic Load [parallel to plane of frame]
 WL1 : Wind from Left to Right without CpIGj
 WL2 : Wind from Left to Right with CpIGj
 WL3 : Wind from Left to Right with -CpIGj
 LWL1 : Wind from Back to Front without CpIGj
 LWL2 : Wind from Back to Front with CpIGj
 LWL3 : Wind from Back to Front with -CpIGj
 LWL4 : Wind from Front to Back without CpIGj
 LWL5 : Wind from Front to Back with CpIGj
 LWL6 : Wind from Front to Back with -CpIGj
 WL4 : Wind from Right to Left without CpIGj
 WL5 : Wind from Right to Left with CpIGj
 WL6 : Wind from Right to Left with -CpIGj

NOTES

- THE REACTIONS PROVIDED ARE BASED ON THE ORDER DOCUMENTS AT THE TIME OF MAILING. ANY CHANGES TO BUILDING LOADS OR DIMENSIONS MAY CHANGE THE REACTIONS. THE REACTIONS WILL BE SUPERSEDED AND VOIDED BY ANY FUTURE MAILING.
- THE REACTIONS PROVIDED HAVE BEEN CREATED WITH THE FOLLOWING LAYOUT (UNLESS NOTED OTHERWISE):
 - A REACTION TABLE IS PROVIDED WITH THE REACTIONS FOR EACH LOAD GROUP.
 - RIGID FRAMES - TRANSVERSE AND LONGITUDINAL
 - FOR CANADA BUILDING CODE (NBCC), INDIVIDUAL TRANSVERSE SEISMIC LOADS FOR MOMENT FRAMES (EQ) ARE NOT MULTIPLIED BY FORCE REDUCTION FACTOR, R_w WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{f_s a_s(0.2)\}$ IS GREATER THAN 0.45.
 - FOR CANADA BUILDING CODE (NBCC), WHEN PORTAL FRAMES ARE PRESENT IN THE SIDEWALL, INDIVIDUAL LONGITUDINAL SEISMIC LOADS (LEQ) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_w WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{f_s a_s(0.2)\}$ IS GREATER THAN 0.45.
 - ENDWALLS - SEISMIC BASE SHEAR FROM WALL MASS
 - FOR CANADA BUILDING CODE (NBCC), INDIVIDUAL LONGITUDINAL SEISMIC LOADS (E+ & E-), AND INDIVIDUAL TRANSVERSE SEISMIC LOADS (EL & ER) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_w WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{f_s a_s(0.2)\}$ IS GREATER THAN 0.45.
 - X-BRACING - REACTIONS TO COLUMNS FROM WALL BRACING
 - X-BRACING REACTIONS ARE INCLUDED IN VALUES SHOWN IN THE REACTION TABLES.
 - FOR CANADA BUILDING CODE (NBCC), WHEN X-BRACING IS PRESENT IN THE SIDEWALL, INDIVIDUAL LONGITUDINAL SEISMIC LOADS (RBUPEQ & RBDWEQ) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_w WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{f_s a_s(0.2)\}$ IS GREATER THAN 0.45.
 - FOR CANADA BUILDING CODE (NBCC), WHEN X-BRACING IS PRESENT IN THE ENDWALL, INDIVIDUAL TRANSVERSE SEISMIC LOADS (EL & ER) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_w WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{f_s a_s(0.2)\}$ IS GREATER THAN 0.45.
 - FOR CANADA BUILDING CODE (NBCC), WHEN X-BRACING IS PRESENT AT THE ENDWALL CORNER COLUMNS, INDIVIDUAL LONGITUDINAL SEISMIC LOADS (E+ & E-) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_w WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{f_s a_s(0.2)\}$ IS GREATER THAN 0.45.
 - THE METAL BUILDING MANUFACTURER IS RESPONSIBLE ONLY FOR THE PORTION OF THE ANCHOR ROD DESIGN PERTAINING TO THE TRANSFER OF FORCES BETWEEN THE BASE PLATE BEARING AND THE ANCHOR ROD'S SHEAR AND TENSION. THE METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR THE ANCHOR ROD EMBEDMENT FOR TRANSFER OF FORCES TO THE FOUNDATION. THE METAL BUILDING MANUFACTURER DOES NOT DESIGN AND IS NOT RESPONSIBLE FOR THE DESIGN, MATERIAL, AND CONSTRUCTION OF THE FOUNDATION EMBEDMENTS. THE END USER CUSTOMER SHALL ASSURE THAT ADEQUATE PROVISIONS ARE MADE TO THE FOUNDATION DESIGN FOR LOADS IMPOSED BY COLUMN REACTIONS OF THE BUILDING, OTHER IMPOSED LOADS, AND BEARING CAPACITY OF THE SOIL AND OTHER CONDITIONS OF THE BUILDING SITE. IT IS RECOMMENDED THAT THE ANCHORAGE AND FOUNDATION OF THE BUILDING BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER COMPETENT IN THE DESIGN OF SUCH STRUCTURES.
 - (REF. APPENDIX A3 OF THE MBMA METAL BUILDING SYSTEMS MANUAL)
 - ANCHOR RODS ARE ASTM F1554 GR. 36 MATERIAL UNLESS NOTED OTHERWISE ON THE ANCHOR ROD LAYOUT DRAWING.
- REACTIONS ARE PROVIDED AS UN-FACTORED FOR EACH LOAD GROUP APPLIED TO THE COLUMN - WITH THE EXCEPTION OF THE R_w SEISMIC FACTOR. REFER TO THE ENDWALLS AND X-BRACING NOTES ABOVE.
 - THE FACTORS APPLIED TO LOAD GROUPS FOR THE STEEL COLUMN DESIGN MAY BE DIFFERENT THAN THE FACTORS USED IN THE FOUNDATION DESIGN. THE FOUNDATION ENGINEER SHALL APPLY THE APPROPRIATE LOAD FACTORS AND COMBINE THE REACTIONS IN ACCORDANCE WITH THE BUILDING CODE AND DESIGN SPECIFICATIONS FOR PROPER FOUNDATION DESIGN. THE MANUFACTURER DOES NOT PROVIDE "MAXIMUM LOAD COMBINATION REACTIONS. HOWEVER, THE INDIVIDUAL LOAD REACTIONS PROVIDED MAY BE USED BY THE FOUNDATION ENGINEER TO DETERMINE THE APPLICABLE LOAD COMBINATIONS FOR HIS/HER DESIGN PROCEDURES AND ALLOW FOR AN ECONOMICAL FOUNDATION DESIGN.

Revision	Date	Description
0	03/01/21	FOR ERECTOR INSTALLATION

1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
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For Construction Permit
 For Erector Installation

Customer:
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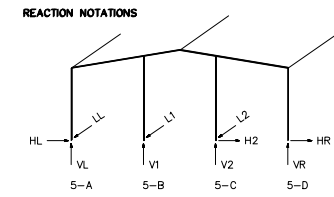
Drawing Status:
 Preliminary (Not For Construction)
 For Approval (Not For Construction)

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: F3 of 4

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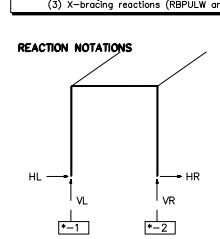
A. SZILVESZTER, P.ENG
 ONTARIO P.ENG 100041568

Drawing has been digitally signed.



LOAD GROUP	5-A	5-B	5-C	5-D
D	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0
L	0.0	1.8	0.0	0.0
S	0.1	4.2	0.0	0.0
W+	-0.1	-2.3	1.6	0.0
W-	-0.1	-2.3	-1.6	0.0
WR	-0.1	-2.3	0.0	0.0
WL	-0.1	-2.3	0.0	0.0
E+	0.0	0.0	0.0	0.0
E-	0.0	0.0	0.0	0.0
ER	0.0	0.0	0.0	0.0
EL	0.0	0.0	0.0	0.0

LOAD GROUP DESCRIPTION
 D : DEAD LOAD
 C : COLLATERAL LOAD
 L : LIVE LOAD
 S : DESIGN SNOW LOAD
 W+ : WIND LOAD AS AN INWARD ACTING PRESSURE
 W- : WIND LOAD AS AN OUTWARD ACTING SUCTION
 WR : WIND FORCE FROM THE RIGHT
 WL : WIND FORCE FROM THE LEFT
 E+ : EARTHQUAKE FORCE ACTING INWARD
 E- : EARTHQUAKE FORCE ACTING OUTWARD
 ER : EARTHQUAKE FORCE FROM RIGHT
 EL : EARTHQUAKE FORCE FROM LEFT



LOAD GROUP	*-1	*-2
DL	0.0	0.5
LEO	-3.2	-7.4
LWL1	-1.8	-4.2
LWL2	1.9	4.2

LOAD GROUP DESCRIPTION
 DL : Roof Dead Load
 LEO : Longitudinal Seismic Load
 LWL1 : Wind from Left to Right
 LWL2 : Wind from Right to Left

NOTES

- THE REACTIONS PROVIDED ARE BASED ON THE ORDER DOCUMENTS AT THE TIME OF MAILING. ANY CHANGES TO BUILDING LOADS OR DIMENSIONS MAY CHANGE THE REACTIONS. THE REACTIONS WILL BE SUPERSEDED AND VOIDED BY ANY FUTURE MAILING.
- THE REACTIONS PROVIDED HAVE BEEN CREATED WITH THE FOLLOWING LAYOUT (UNLESS NOTED OTHERWISE).
 - A REACTION TABLE IS PROVIDED WITH THE REACTIONS FOR EACH LOAD GROUP.
 - RIGID FRAMES - TRANSVERSE AND LONGITUDINAL
 - FOR CANADA BUILDING CODE (NBCC), INDIVIDUAL TRANSVERSE SEISMIC LOADS FOR MOMENT FRAMES (EQ) ARE NOT MULTIPLIED BY FORCE REDUCTION FACTOR, R_d WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_e F_a S_d(0.2)\}$ IS GREATER THAN 0.45.
 - FOR CANADA BUILDING CODE (NBCC), WHEN PORTAL FRAMES ARE PRESENT IN THE SIDEWALL, INDIVIDUAL LONGITUDINAL SEISMIC LOADS (LEQ) ARE NOT MULTIPLIED BY FORCE REDUCTION FACTOR, R_d WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_e F_a S_d(0.2)\}$ IS GREATER THAN 0.45.
 - ENDWALLS - SEISMIC BASE SHEAR FROM WALL MASS
 - FOR CANADA BUILDING CODE (NBCC), INDIVIDUAL LONGITUDINAL SEISMIC LOADS (E+ & E-), AND INDIVIDUAL TRANSVERSE SEISMIC LOADS (EL & ER) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_d WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_e F_a S_d(0.2)\}$ IS GREATER THAN 0.45.
 - X-BRACING - REACTIONS TO COLUMNS FROM WALL BRACING
 - X- BRACING REACTIONS ARE INCLUDED IN VALUES SHOWN IN THE REACTION TABLES.
 - FOR CANADA BUILDING CODE (NBCC), WHEN X-BRACING IS PRESENT IN THE SIDEWALL, INDIVIDUAL LONGITUDINAL SEISMIC LOADS (RBUPEQ & RBDWEQ) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_d WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_e F_a S_d(0.2)\}$ IS GREATER THAN 0.45.
 - FOR CANADA BUILDING CODE (NBCC), WHEN X-BRACING IS PRESENT IN THE ENDWALL, INDIVIDUAL TRANSVERSE SEISMIC LOADS (EL & ER) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_d WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_e F_a S_d(0.2)\}$ IS GREATER THAN 0.45.
 - FOR CANADA BUILDING CODE (NBCC), WHEN X-BRACING IS PRESENT AT THE ENDWALL CORNER COLUMNS, INDIVIDUAL LONGITUDINAL SEISMIC LOADS (E+ & E-) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_d WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_e F_a S_d(0.2)\}$ IS GREATER THAN 0.45.
- THE METAL BUILDING MANUFACTURER IS RESPONSIBLE ONLY FOR THE PORTION OF THE ANCHOR ROD DESIGN PERTAINING TO THE TRANSFER OF FORCES BETWEEN THE BASE PLATE BEARING AND THE ANCHOR ROD'S SHEAR AND TENSION. THE METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR THE ANCHOR ROD EMBEDMENT FOR TRANSFER OF FORCES TO THE FOUNDATION. THE METAL BUILDING MANUFACTURER DOES NOT DESIGN AND IS NOT RESPONSIBLE FOR THE DESIGN, MATERIAL, AND CONSTRUCTION OF THE FOUNDATION EMBEDMENTS. THE END USE CUSTOMER SHALL ASSURE THAT ADEQUATE PROVISIONS ARE MADE TO THE FOUNDATION DESIGN FOR LOADS IMPOSED BY COLUMN REACTIONS OF THE BUILDING, OTHER IMPOSED LOADS, AND BEARING CAPACITY OF THE SOIL AND OTHER CONDITIONS OF THE BUILDING SITE. IT IS RECOMMENDED THAT THE ANCHORAGE AND FOUNDATION OF THE BUILDING BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER COMPETENT IN THE DESIGN OF SUCH STRUCTURES.
 - (REF. APPENDIX A3 OF THE MBMA METAL BUILDING SYSTEMS MANUAL)
 - ANCHOR RODS ARE ASTM F1554 GR. 36 MATERIAL UNLESS NOTED OTHERWISE ON THE ANCHOR ROD LAYOUT DRAWING.
- REACTIONS ARE PROVIDED AS UN-FACTORED FOR EACH LOAD GROUP APPLIED TO THE COLUMN - WITH THE EXCEPTION OF THE R_d SEISMIC FACTOR. REFER TO THE ENDWALLS AND X-BRACING NOTES ABOVE.
 - THE FACTORS APPLIED TO LOAD GROUPS FOR THE STEEL COLUMN DESIGN MAY BE DIFFERENT THAN THE FACTORS USED IN THE FOUNDATION DESIGN. THE FOUNDATION ENGINEER SHALL APPLY THE APPROPRIATE LOAD FACTORS AND COMBINE THE REACTIONS IN ACCORDANCE WITH THE BUILDING CODE AND DESIGN SPECIFICATIONS FOR PROPER FOUNDATION DESIGN. THE MANUFACTURER DOES NOT PROVIDE "MAXIMUM" LOAD COMBINATION REACTIONS. HOWEVER, THE INDIVIDUAL LOAD REACTIONS PROVIDED MAY BE USED BY THE FOUNDATION ENGINEER TO DETERMINE THE APPLICABLE LOAD COMBINATIONS FOR HIS/HER DESIGN PROCEDURES AND ALLOW FOR AN ECONOMICAL FOUNDATION DESIGN.

Revision	Date	Description
0	03/01/21	FOR ERECTOR INSTALLATION

1343 SANDHILL DRIVE
 ANCASTER, ONTARIO L9G 4V5
 905-304-1111

Robertson Building Systems

Project Name & Location:
 ALLEN ROBERTS
 5949 OTTAWA STREET
 OTTAWA, ON K0A 2Z0 CA

Customer:
 METALPRO BUILDINGS
 1062 MARGOLD ST
 LONDON, ON N5X-4N9 CA

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

Scale: NOT TO SCALE
 Drawn by: SRA 3/1/21
 Checked by: DLS 3/1/21
 Project Engineer: EJA
 Job Number: 17-B-93413
 Sheet Number: F4 of 4

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.

A. SZILVESZTER, P.ENG
 ONTARIO P.ENG 100041568



Drawing has been digitally signed.