

Products							
PlotID	Length	Product	Plies	Net Qty			
J1	12-00-00	11 7/8" NI-40x	1	19			
J2	8-00-00	11 7/8" NI-40x	1	7			
J3	6-00-00	11 7/8" NI-40x	1	2			
J4	4-00-00	11 7/8" NI-40x	1	2			
J5	2-00-00	11 7/8" NI-40x	1	2			
J6	20-00-00	11 7/8" NI-80	1	23			
B2/	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B1 🖊	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	. 2	2			
B4 /	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2 .			
B3 🔨	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B5 /	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B6/	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			

Connector Summary							
Qty Manuf Product							
2	H1	IUS2.56/11.88					
15	H1	IUS2.56/11.88					
2	H1	IUS2.56/11.88					
1	H4	HU312-2					
. 3	H5	HUS1.81/10					

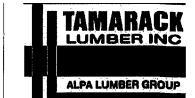
NU LES:

REFER TO THE NORDIC **INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS REQ'D** UNDER CONCENTRATED LOADS SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. CERAMIC TILE APPLICATION AS PER O.B.C. 9.30.6.

LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 20.0 lb/ft² TILED AREAS: 20 lb/ft2

SUBFLOOR: 5/8" GLUE AND NAIL



FROM PLAN DATED: FEB-2017

BUILDER:

ROYAL PINE HOMES

SITE:

FORESTSIDE ESTATES

MODEL: UNIT 2201 T1

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: M D **DESIGNER:** AJ **REVISION:**

DATE: 4/24/2017

1st FLOOR

STANDARD

DATE 1/12/8

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.

MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.

INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT

PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 858618H THROUGH DWG# TAM 859376 NCLUSIVE DATED 117216

SEALED STRUCTURAL COMPONENTS ONLY:

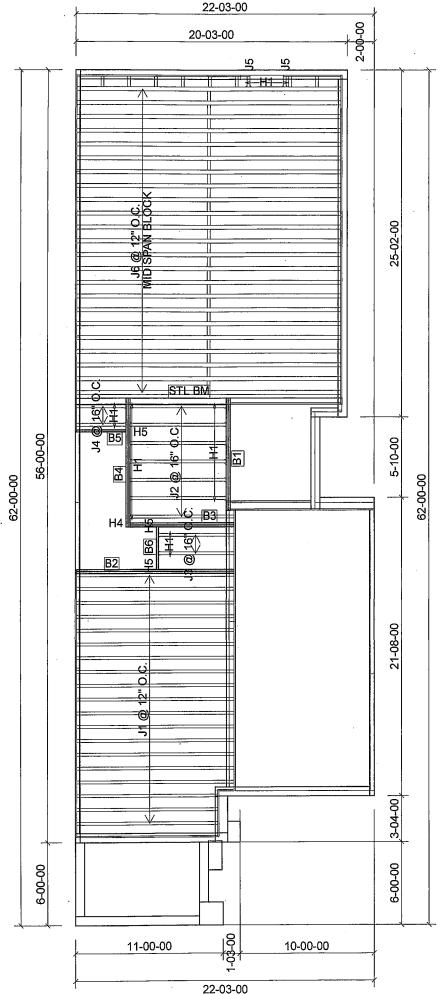
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIG WOOD-I JOIST ONLY, 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PEF PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.

A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16 DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC

3101278 DWG # TAM 26064 29991 SEALED STRUCTURAL COMPONENTS ONLY



Products							
PlotID	Length	Product	Plies	Net Qty			
J1	12-00-00	11 7/8" NI-40x	1	19			
J2	8-00-00	11 7/8" NI-40x	1	7			
J3	6-00-00	11 7/8" NI-40x	-1	2			
J4	4-00-00	11 7/8" NI-40x	1	2			
J5	2-00-00	11 7/8" NI-40x	1	2			
J6	20-00-00	11 7/8" NI-80	1	23			
B2 (12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B1	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B4 ′	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2:0 3100 SP	2	2			
B3 ′	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B5 /	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B6 /	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			

	Connector Summary							
Qty Manuf Product								
2	H1	IUS2.56/11.88						
15	H1 .	IUS2.56/11.88						
2	H1	IUS2.56/11.88						
1	H4	HU312-2						
3	H5	HUS1.81/10						

REFER TO THE NORDIC
INSTALLATION GUIDE FOR PROPER

STORAGE AND INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2

S.P.F. REQ'D UNDER INTERIOR

UNIFORM LOAD BEARING WALLS.

MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS SEE

FIGURE 1. CANTILEVERED JOISTS
INCLUDING CANT' OVER BRICK REQ.
I-JOIST BLOCKING ALONG BEARING
AND RIMBOARD CLOSURE AT ENDS.

SEE FIGURE 4 & 5 FOR

REINFORCEMENT REQUIREMENTS.
FOR HOLES INCLUDING DUCT CHASE

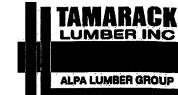
AND **FIELD CUT OPENINGS** SEE FIGURE 7 TABLES 1 & 2 OF THE

INSTALLATION GUIDE. **CERAMIC TILE** APPLICATION AS PER O.B.C. 9.30.6.

LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 20.0 lb/ft² TILED AREAS: 20 lb/ft₂

SUBFLOOR: 5/8" GLUE AND NAIL



FROM PLAN DATED: FEB-2017

BUILDER:ROYAL PINE HOMES

SITE: FORESTSIDE ESTATES

MODEL: UNIT 2201 T1

ELEVATION: B

LOT:

CITY: BRAMPTON

SALESMAN: M D DESIGNER: AJ REVISION:

DATE: 4/24/2017

1st FLOOR

STANDARD

ATE 117218

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS CLAS PER PLAN WORK DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.

MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM.

FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY
HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE
WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ
ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING
ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT
PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS,
REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAMBSBENOH THROUGH DWG# TAM 859318H INCLUSIVE DATED 11118

SEALED STRUCTURAL COMPONENTS ONLY:

SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PEI PROJECT ENGINEER'S SPECIFICATIONS, WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.

JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.

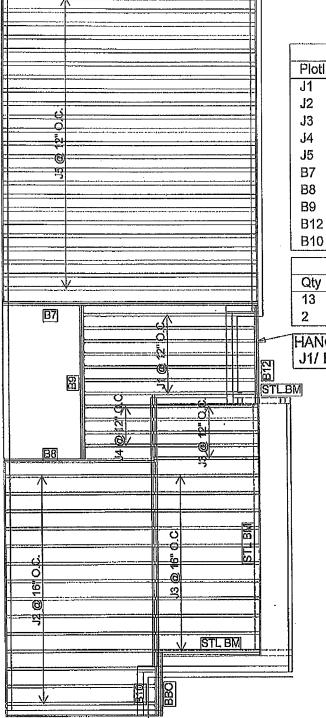
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/160 DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED. IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 3/0/3/8 BCIN: 26064 FIRM: 29091

BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL
COMPONENTS ONLY



Products							
PlotID	Length	Product	Plies	Net Qty			
J1	14-00-00	11 7/8" NI-40x	1	7			
J2	12-00-00	11 7/8" NI-40x	1	14			
J3	10-00-00	11 7/8" NI-40x	1	16			
J 4	6-00-00	11 7/8" NI-40x	1	4			
J5	20-00-00	11 7/8" NI-80	1	23			
B7	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B8	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B9	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B12	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B10	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			

	Connector Summary						
Qty Manuf Product							
13	H1	IUS2.56/11.88					
2	H3	HGUS410					

HANGER NOT REQ'D J1/ B12 CONNECTION

FIRM BCIN 28103 DESIGNER BCIN 23991



FROM PLAN DATED:

BUILDER: ROYAL PINE HOMES

SITE: FORESTSIDE ESTATES

MODEL: UNIT 2201 T1

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: M D DESIGNER: AJ REVISION:

NOTES:

REFER TO THE NORDIC INSTALLATION
GUIDE FOR PROPER STORAGE AND
INSTALLATION, SQUASH BLOCKS OF 2x4,
2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR
UNIFORM LOAD BEARING WALLS. MULTIPLE
SQUASH BLOCKS REQ'D UNDER
CONCENTRATED LOADS, SEE FIGURE 1.
CANTILEVERED JOISTS INCLUDING CANT'
OVER BRICK REQ. I-JOIST BLOCKING ALONG
BEARING AND RIMBOARD CLOSURE AT
ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR
REINFORCEMENT REQUIREMENTS. FOR
HOLES INCLUDING DUCT CHASE AND FIELD
CUT OPENINGS SEE FIGURE 7 TABLES 1 & 2
OF THE INSTALLATION GUIDE. CERAMIC TILE
APPLICATION AS PER O.B,C, 9.30.6

LOADING:

DESIGN LOADS: L/480,000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-04-04

2nd FLOOR





3.1/2 A OSB 7/16"-> NI-20 ╝ 2100f MSR 1950f MSR 2100f MSR 2400f MSR NPG Lumber S-P-F No.2 1950f MSR 33 pieces 23 pieces 33 pieces

Refer to the Installation Guide for Residential Floors for additional information. CCMC EVALUATION REPORT 13032-R

WEB HOLE SPECIFICATIONS

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- 1. The distance between the inside edge of the support and the centraline of any hole or duct chase opening shall be in compliance with the requirements of
- Table 1 or 2, respectively.

 1. I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.

 Whenever possible, field-cut holes should be centred on the middle of the web.
- 4. The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.

2'-10" 3'-0" 4'-0"

4'-9"
5'-0"
1'-0"
1'-3"
3'-0"
4'-0"
)" 4'-2"
' 1'-5"
" 0'-9"

0'-8" 0'-9" 2'-5" 0'-8" 0'-9" 2'-5" 0'-8" 0'-8" 1'-0" 0'-8" 1'-8" 3'-0" 1'-10" 3'-0" 4'-5" " 2'-0" 3'-4" 4'-9" 0'-8" 0'-10" 2'-5"

0'-8" 1'-8" 2'-6" 2'-10" 0'-8"

4'-3" 4'-4" 5'-4" 6'-3"

6'-6" 2'-4" 2'-8" 4'-3"

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

5'-8" 6'-0" 7'-0"

8'-0" 8'-8" --3'-8" 4'-0" 5'-0"
4'-0" 4'-4" 5'-5"
5'-9" 6'-0" 7'-3"
6'-9" 7'-2" 8'-4"
7'-0" 7'-5" 8'-6"
4'-10" 5'-4" 6'-9"
4'-4" 4'-9" 6'-3"

5'-9" 6'-0" 7'-3" 6'-9" 7'-2" 8'-4" 7'-0" 7'-5" 8'-6" 4'-10" 5'-4" 6'-9" 4'-4" 4'-9" 6'-3" 2'-4" 2'-9" 3'-9"

Minimum Distance from Inside Face of Any Support to Centre of Hole (ft - in.) Round Hole Diameter (in.)

Above table may be used for I-joist spacing of 24 inches on centre or less.
 Hole location distance is measured from inside face of supports to centre of hole.
 Sistances in this chart are based on untiformly loaded joists.
 The above table is based on the I-joist being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

6'-6" 7'-9" 7'-0" 8'-4" 8'-10" 10'-0"

10'-2" ---

6-1/4 7 8 8-5/8 9 10 10-3/4 11 12 12-3/4

6'-0" 6'-6" 8'-3" 10'-2"

- 5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location
- 6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.

 7. A knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be
- ignored for purposes of calculating minimum distances between holes and/or duct chase openinas.
- ring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification

10'-2" 12'-2" 13'-9'

9 A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above

10. All holes and duct chase openings shall be cut in a workman-like

illustrated in Figure 7.

num size holes per span, of which one may be

NI-80

a duct chase opening.

12. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

Simple Span Only

		Minimum distance from inside face of supports to centre of opening (ft - in.)									
Joist Depth	Joist Series		Duct Chase Length (in.)								
Берш	50,103	8	10	12	14	16	18	20	22	24	
	NI-20	4'-1"	4'-5"	4'-10°	5'-4"	5'-8"	6'-1"	6'-6"	7'-1"	7'-5"	
	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"	
9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	8'-3"	8'-9"	
	NI-70	5'-1"	5'-5"	5'-10"	6'-3"	6'-7"	7'-1"	7'-6"	8'-1"	8'-4"	
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"	
	NI-20	5'-9"	6'-2"	6'-6"	7'-1"	7'-5"	7'-9"	8'-3"	8'-9"	9'-4"	
	NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	10'-1"	10'-9"	
	NI-60	7'-3"	7'-8"	8'-0"	8'-6"	9'-0"	9'-3"	9'-9"	10'-3"	11'-0"	
11-7/8"	NI-70	7'-1"	7'-4"	7'-9"	8'-3"	8'-7"	9'-1"	9'-6"	10'-1"	10'-4"	
, .	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-8"	
	NI-90	7'-6"	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	10'-11"	
	NI-90x	7'-7"	8'-1"	8'-5"	8'-10"	9'-4"	9'-8"	10'-2"	10'-8"	11'-2"	
	NI-40x	8'-1"	8'-7"	9'-0"	9'-6"	10'-1"	10'-7"	11'-2"	12'-0"	12'-8"	
	NI-60	8'-9"	9'-3"	9'-8"	10'-1"	10'-6"	11'-1"	11'-6"	13'-3"	13'-0"	
2.40	NI-70	8'-7"	9'-1"	9'-5"	9'-10"	10'-4"	10'-8"	11'-2"	11'-7"	12'-3"	
14"	NI-80	9'-0"	9'-3"	9'-9"	10'-1"	10'-7"	11'-1"	11'-6"	12'-1"	12'-6"	
	NI-90	9'-2"	9'-8"	10'-0"	10'-6"	10'-11"		11'-9"	12'-4"	12'-11"	
	NI-90x	9'-4"	9'-9"	10'-3"	10'-7"	11'-1"	11'-7"	12'-1"	12'-7"	13'-2"	
	NI-60	10'-3"	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	14'-1"	14'-10"	
	NI-70	10'-1"	10'-5"	11'-0"	11'-4"	11'-10"	12'-3"	12'-8"	13'-3"	14'-0"	
16"	NI-80	10'-4"	10'-9"	11'-3"	11'-9"	12'-1"	12'-7"	13'-1"	13'-8"	14'-4"	
	NI-90	10'-9"	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14'-2"	14'-10"	
	NI-90x	11'-1"	11'-5"	11'-10"	12'-4"	12'-10"	13'-2"	13'-9"	14'-4"	15'-2"	

- Above table may be used for 1-joist spacing of 24 incress on centre or less.

 Duct chase opening location distance is measured from inside face of supports to centre of opening.

 The above table is based on simple-span joists only. For other applications, contact your local distributor.

 Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480.
- 5. The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

DUCT CHASE OPENING SIZES AND LOCATIONS

		Minimum distance from inside face of supports to centre of opening (ft - in.)								
Joist Depth	Joist Series	Duct Unase Length (ID.)								
Берііі	561103	8	10	12	14	16	18	20	22	24
	NI-20	4'-1"	4'-5"	4'-10°	5'-4"	5'-8"	6'-1"	6'-6"	7'-1"	7'-5"
	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"
9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	8'-3"	8'-9"
•	NI-70	5'-1"	5'-5"	5'-10"	6'-3"	6'-7"	7'-1"	7'-6"	8'-1"	8'-4"
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"
	NI-20	5'-9"	6'-2"	6'-6"	7'-1"	7'-5"	7'-9"	8'-3"	8'-9"	9'-4"
	NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	10'-1"	10'-9"
	NI-60	7'-3"	7'-8"	8'-0"	8'-6"	9'-0"	9'-3"	9'-9"	10'-3"	11'-0"
11-7/8"	NI-70	7'-1"	7'-4"	7'-9"	8'-3"	8'-7"	9'-1"	9'-6"	10'-1"	10'-4"
	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-8"
	NI-90	7'-6"	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	10'-11"
	NI-90x	7'-7"	8'-1"	8'-5"	8'-10"	9'-4"	9'-8"	10'-2"	10'-8"	11'-2"
	NI-40x	8'-1"	8'-7"	9'-0"	9'-6"	10'-1"	10'-7"	11'-2"	12'-0"	12'-8"
	NI-60	8'-9"	9'-3"	9'-8"	10'-1"	10'-6"	11'-1"	11'-6"	13'-3"	13'-0"
2.40	NI-70	8'-7"	9'-1"	9'-5"	9'-10"	10'-4"	10'-8"	11'-2"	11'-7"	12'-3"
14"	NI-80	9'-0"	9'-3"	9'-9"	10'-1"	10'-7"	11'-1"	11'-6"	12'-1"	12'-6"
	NI-90	9'-2"	9'-8"	10'-0"	10'-6"	10'-11"	11'-5"	11'-9"	12'-4"	12'-11"
	NI-90x	9'-4"	9'-9"	10'-3"	10'-7"	11'-1"	11'-7"	12'-1"	12'-7"	13'-2"
	NI-60	10'-3"	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	14'-1"	14'-10"
	NI-70	10'-1"	10'-5"	11'-0"	11'-4"	11'-10"	12'-3"	12'-8"	13'-3"	14'-0"

Above table may be used for 1-joist spacing of 24 inches on centre or less.

l-joist to top plate per detail 1b

(1d)

block

Flange Width

2-1/2"

3-1/2"

(1k)

- Offset nails from -1/8" to 1/4" gap between top flange

FILLER BLOCK REQUIREMENTS

FOR DOUBLE 1-JOIST

damage to web/flange connection. 2. Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top 1-joist flange. 3. Filler block is required between joists for full length

– Filler

Maximum support

block pe

capacity = 1,620 lbs.

4. Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of four nails per foot required. If nails can be clinched, only two nails per foot are required.

Support back of I-joist web during nailing to prevent

5. The maximum factored load that may be applied to one side of the double joist using this detail is 860 lbf/ft. Verify double I-joist capacity.

Maximum Factored Uniform Vertical Load* (plf)

3.300

Maximum Factored

Vertical Load per Pair of Squash Blocks (lbs)

3-1/2" 5-1/2" wide wide

8,500

5,500

-1/8" Rim Board Plus 4,300 6,600

Provide lateral bracing per detail 1a or 1b

5-1/2

7-1/4"

2-1/2"

face nail at each side at bearing

*The uniform vertical load is limited to a joist depth of 16

inches or less and is based on standard term load duration

It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load

2-1/2" nails at 6" o.c. to top plate (when used for lateral

shear transfer, nail to bearing plate with same nailing as

required for decking)

(1h) Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double Lioist, drive three additional 38 and 1 lbs.

BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

1-1/2"

double 1-joist, drive three additional 3" nails through the webs and filler block where the backer block will fit. Clinch. Install backer tight to top flange. Use twelve 3" nails, clinched

when possible. Maximum factored resistance for hanger for this detail = 1,620 lbs.

Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn lumber and

(1m)

wood structural panels conforming to CAN/CSA-O325 or CAN/CSA-O437 Standard.

**For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges

NI or rim board blocking

panel per detail 1a

For 2" thick flanges use net depth minus 4-1/4".

2x plate flush with inside face of wall

or beam, 1/8" overhang allowed

NOTE: Unless hange

sides laterally support the top flange, bearing

installed per manufacturer's

recommendation

NOTES:

Flange Size	Net Depth	Filler Block Size
2-1/2" x 1-1/2"	9-1/2" 11-7/8" 14" 16"	2-1/8" x 6" 2-1/8" x 8" 2-1/8" x 10" 2-1/8" x 12"
3-1/2" x 1-1/2"	9-1/2" 11-7/8" 14" 16"	3" x 6" 3" x 8" 3" x 10" 3" x 12"
3-1/2" x 2"	11-7/8" 14" 16"	3" x 7" 3" x 9" 3" x 11"

~2x4 min. (1/8" gap minimum) to lumber piece nails at 6" o.c. — One 2-1/2" nail one side only NOTES:

In some local codes, blocking is prescriptively required In some local coaes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of the blocking.

All nails are common spiral in this detail.

Maximum Factored Uniform Vertical Load* (plf)

8.090

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on

standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

Load bearing wall above shall align vertically

with the bearing below. Other conditions, such

as offset bearing walls, are not covered by

Blocking required over all interior supports under

load-bearing walls or when floor joists are not

Structural Composite Lumber (SCL)

For nailing schedules for multiple

beams, see the manufacturer's

Top- or face-mount hange

Lumber 2x4 min., extend block to face

of adjacent web. Two 2-1/2" spiral nails

from each web to lumber piece, alternate

OPTIONAL: Minimum 1x4 inch strap

line or 1/2 inch minimum aypsum

ceiling attached to underside of joists.

applied to underside of joist at blocking

installed per manufacturer's

NI blocking panel per detail 1a

NOTE: Unless hanger sides laterally support the top flange,

NI blocking pane

bearing stiffeners shall be used.

Nordic Lam or

1-1/8" Rim Board Plus

One 2-1/2" wire or spiral nail at top and bottom flange

Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable.

2-1/2" nails

to top plate

Double 1-joist header

sides laterally support

stiffeners shall be used

Backer block required

(both sides for face

mount hangers)

- Do not bevel-cut

inside face

per detail 1b

NOTE: Blocking required a

bearing for lateral support, not

from above to

bearing belo

Install sauasi

detail 1d.

Top- or face-mount

concentrated loads.

Multiple I-joist header with full depth filler

block shown. Nordic Lam or SCL headers

may also be used. Verify double 1-jois

Backer block attached per

nails, clinch when possible

detail 1h. Nail with twelve 3"

Install hanger per

manufacturer's

capacity to support concentrated loads.

Match bear

area of blocks

For hanger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support

Joist attachmen

Attach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c.

(II)

(Ir)

To avoid splitting flange, start nails at least 1-1/2" from end of I-joist.

Nails may be driven at an angle to avoid splitting of bearing pla

All nails shown in the above details are assumed to be common wire nails ioted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) Framina lumber d to be Spruce-Pine-Fir No. 2 or better. Individual

TARIF 1

Depth

9-1/2"

11-7/8"

NI-20

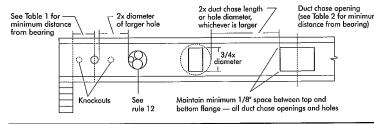
NI-60

NI-60 NI-70

NI-80

NI-70

FIELD-CUT HOLE LOCATOR





Knockouts are prescored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on centre along the length of the I-joist. Where

ver drill, cut or notch the flange, or over-cut the web

Holes in webs should be cut with a sharp saw.

For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist.

SAFETY AND CONSTRUCTION PRECAUTIONS



fully fastened and braced, or



Never stack building materials over unsheathed I-joists. Once sheathed, do not over-stress

WARNING: I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

- Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends.

 When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
- 2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the Lioists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent Lioist rollover
- or buckling.

 ** Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each 1-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two 1-joists.

 **Or, shealthing (temporary or permanent) can be nailed to the top flange of the first 4 feet of 1-joists at the end of the bay.
- ered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
- Install and fully noil permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
- 5. Never install a damaged I-joist.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accide improper strategy or institution, rather to drow approach to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.



PRODUCT WARRANTY

Chantiers Chibougamau guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

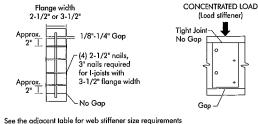
Furthermore, Chantiers Chibougamau warrants that our products, en utilized in accordance with our handling and installation instruction will meet or exceed our specifications for the lifetime of the structure.

WEB STIFFENERS

RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found of the I-joist Construction Guide (C101). The gap between the stiffener and the flange is at
- A bearing stiffener is required when the I-joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the top flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flange between supports or in the case of a cantilever, anywhere between the cantilever tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

WEB STIFFENER INSTALLATION DETAILS

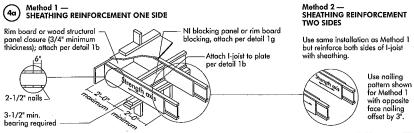


(Load stiffener

END BEARING Tight Joint No Gap

Web Stiffener Size Each Side of Web 1" x 2-5/16" 2-1/2" 1-1/2" x 2-5/16" 3-1/2"

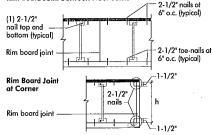
CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET



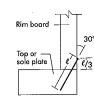
NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity.

RIM BOARD INSTALLATION DETAILS











Schedule 1: Designer Information

Use one form for each individual who review	vs and takes res	ponsibility for design activities Application nu	es with respect to t	he project.				
As Project Intormation Building number, street name		Applicatoring	Unit no.	Lot/con.				
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other descrip	otion					
B: Individual who reviews and take	sresponsibili	Firm						
EDKIN C. FOK		STRACON	engineer					
	J CRES.		Unit no.	Lot/con.				
Municipality RICHHOND HU	Postal code LAI33W	Province ONTALLO	E-mail					
Telephone number (905) 832 - 2250	Fax number	32.0286	Cell number					
C: Design activities undertaken by Division C	individuat de	ntified in Section B. (Bi	ilding Code Tal	dle 3 5.2 1 of				
☐ House	☐ HVAC	- House	⊠ Building S	tructural				
☐ Small Buildings	☐ Buildin		☐ Plumbing					
☐ Large Buildings ☐ Complex Buildings	☐ Detect	ion, Lighting and Power	☐ Plumbing	· All Buildings ·wage Systems				
Description of designer's work-ROYAL P	NE HOMES-4 F	orest-side — model: Un	TA2004TA-ELE	Medical Control of the Control of th				
1ST FLOOR - STANDARD (SCHEDULE REVIEW PRE-ENGINEERED FLOOR SY	is not issued	AS LOT SPECIFIC)		1				
TAMARACK ROOF TRUSSES INC. (SEE	DWG #TAM310	12-18 DATED 11-12-18).						
SUPPORTING STRUCTURE TO BE REV	IEWED AND VE	RIFED BY QUALIFIED BUIL	DING DESIGNER					
D) Declaration of Designer								
1, EDWN	C. POK d	eclare that (choose one as a	ppropriate):					
(print name) I review and take responsib C, of the Building Code. I an	ility for the desig	n work on behalf of a firm reg he firm is registered, in the a	gistered under sub ppropriate classes	section 3.2.4.of Division /categories.				
individual BCIN: 2	3991							
	8103							
☐ I review and take responsib	ility for the desig	n and am qualified in the ann	oropriate category	as an "other designer"				
under subsection 3.2.5.of D Individual BCIN:	ivision C, of the	Building Code.						
Basis for exemption fro	Basis for exemption from registration:							
	The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification:							
I certify that:			•	•				
The information contained in this	s schedule is tru	e to the best of my knowledge	e .					
2. I have submitted this application	with the knowle	age and consent of the Illm.	1	,				
		٤	, N . e	~ 0				
Date SPRULI7, 20	19	Signature of Designer	Jem	U.				

NOTE:

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the
 Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Schedule 1: Designer Information

Use one form for each individual who review	s and takes re	sponsibility for design activit	ies with respect to the	e project.
A. Project information		Application	umber Unit no.	Lot/con.
Building number, street name	`			
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other descri	ption	
B. Individual who reviews and take	s responsibil	ity for design activities.		
Name = Dulul C = Fold		Elma	ENGINEER	NG INC-
Street address	·		Unit no.	Lot/con.
Municipality GY CARAY DON	Postal code	Province	E-mail	
RICHMOND HILL	Fax number	1. OKTACIO	Cell number	
Telephone number (905) 832 - 2250	(905) 2	332.0286		
G Design activities undertaken by	individual idi	entified in Section B. (E	uilding Code Tab	e 3.5.2:1, of
Division(C)	☐ HVAC	Uguaa	Building Str ■ Buil	uctural
☐ House ☐ Small Buildings		- nouse ng Services	☐ Plumbing - i	House
☐ Large Buildings		tion, Lighting and Power	☐ Plumbing – A ☐ On-site Sew	
☐ Complex Buildings -Description of designer's work: ROYAL-PI	☐ Fire P	rotection Orest-side Model: Mi	UT-201CH-SEEN	Age Systems
1ST FLOOR STANDARD (SCHEDULE REVIEW PRE-ENGINEERED FLOOR SY	S NOT ISSUE) AS LOT SPECIFICI		ł
TAMADACK POOF TRUSSES INC. (SEE	DWG #TAM310)12-18 DATED 11-12-18).	•	-FULL GOLL FIED D.
SUPPORTING STRUCTURE TO BE REV	EWED AND VE	RIFED BY QUALIFIED BUI	LDING DESIGNER.	
D. (Declaration of Designer				
1, EDWA	SC. POK	declare that (choose one as	appropriate):	
(print nai 区 I review and take responsib	lity for the design	an work on behalf of a firm re	egistered under subs	ection 3.2.4.of Division
C, of the Building Code. I an	qualified, and	the firm is registered, in the r	appropriate classes/c	ategories.
·				
individual BCIN: 2	3991			
Firm BCIN: 2	5103			
☐ I review and take responsible	tti i fan ika alania	and am qualified in the on	proprioto estadoju de	an "other designer"
under subsection 3.2.5.of D	inty for the designision C, of the	in and am quained in the ap Building Code.	propriate category as	Sall offer designer
Individual BCIN:			٠	
Basis for exemption fro	m registration:			
☐ The design work is exempt	from the registr	ation and qualification requir	ements of the Buildin	g Code.
Basis for exemption fro	m registration a	and qualification:	•	
I certify that: 1. The information contained in this	s schedule is tru	e to the best of my knowled	ge .	
2. I have submitted this application	with the knowle	edge and consent of the firm		·
	~.		.	
Λ.ηη., 17	109	Manager of Manager - M	Xdi ?) <i>(</i> /
Date APUL 17,2	W.	Signature of Designer P	ジス・ハ・	

NOTE:

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Schedule 1: Designer Information

Use one form for each individual who reviews A: Project intormation	s and takes res	sponsibility for design ac Applicatio	n number:	ne project.				
Building number, street name			Unit no.	Lot/con.				
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other de	scription					
1			•					
B: Individual who reviews and takes	responsibili	ty for design activiti						
Name EDKIN C. FOK	, <u>, , , , , , , , , , , , , , , , , , </u>	STRACOR) ENGINEER	ING INC-				
Street address	CRES.	.)	' Unit no.	Lot/con.				
Municipality RICHTOND HU	Postal code	Province ON/ACLO	E-mail					
Telephone number	Fax number		Cell number					
(905)832-2250 G. Design activities undertaken by II	<u>(907) 2</u>	32.0286	 	163501 N				
Division (2)	iuiviuuai iui	mineu il Section D.						
☐ House	☐ HVAC		⊠ Building St					
☐ Small Buildings ☐ Large Buildings		g Services ion, Lighting and Power	☐ Plumbing ☐ Plumbing					
☐ Complex Buildings	☐ Fire Pi	otection	☐ On-site Ser	wage Systems				
Description of designer's work ROYAL PIN 2NV FLOOR - STANDARD (SCHEDULE IS	NOT ISSUED	AS LOT SPECIFIC)						
REVIEW PRE-ENGINEERED FLOOR SYS TAMARACK ROOF TRUSSES INC. (SEE D	TEM COMPON	IENT DRAWINGS AND	LAYOUT PLACEMENT	PLAN SUPPLIED BY				
SUPPORTING STRUCTURE TO BE REVIE	WED AND VE	RIFED BY QUALIFIED I	BUILDING DESIGNER.					
D. Declaration of Designer								
1, EDWN	e. FOK d	eclare that (choose one	as appropriate):					
(print name	e) by for the decim	n work on hehalf of a fire	n registered under subs	section 3.2.4 of Division				
区 I review and take responsibility C, of the Building Code. I am	qualified, and t	he firm is registered, in t	he appropriate classes/	categories.				
				•				
Individual BCIN: 22	,991	-t						
Firm BCIN: 28	0103			•				
☐ I review and take responsibilit	u for the deale	n and am avalified in the	annronriata catagoni s	e an "other designer"				
under subsection 3.2.5.of Divi	ision C, of the	Building Code.	appropriate category e	a arr other designer				
Individual BCIN:		•		•				
Basis for exemption from	registration: _			·				
☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification:								
I certify that:	rogistiation at	· ·		· · · · · · · · · · · · · · · · · · ·				
1. The information contained in this s	1. The information contained in this schedule is true to the best of my knowledge.							
2. I have submitted this application w	ith the knowle	dge and consent of the f	ım.					
			y 1) . c	\ ()				
Date APPLIC 17/201	9	Signature of Designer	xem.	\mathcal{U}				

NOTE:

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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 practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

NORDIC STRUCTURES

COMPANY Apr. 24, 2017 15:42 PROJECT J6 1st FLOOR NORDIC SIZER

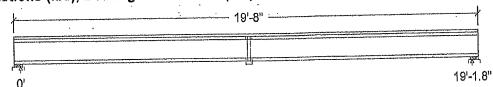
Design Check Calculation Sheet

Nordic Sizer -- Canada 6.4

Loads:

Ι'				······································		·*************************************		
	Load	Type	Distribution	Pat-	Location	[ft]	Magnitude	Unit
l	шоац	1 1150	D1.0000000000	tern	Start	End	Start End	
ı							20.00	psf
	Load1	Dead	Full Area	i i				1 - 1
l			** . 7 7 Non-in-				l 40.00	lpsf l
	Load2	Live	Full Area	l · !				1 ~
ļ	1 '	Dond	Full UDL	1	• '		"3.4	plf
1	Self-weight	Dead	LANTA ANN	L			I	

Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



	0'		19-1.0
Unfactored: Dead Live	224 383		224
Factored: Total Bearing:	·855		855
Resistance Joist Support	2334 8609	and the second s	2334 8609
Des ratio Joist Support	0.37 0.10 #2	HOFESSION TO SE	0.37 0.10 #2
Load case Length Min req'd Stiffener	1-3/4 No	E. FOK	1-3/4 No 1.00
Kd KB support	1.00 1.00 . 769		1.00 1.00 769 1.00
Kzcp sup	1.00		1.00

Nordic 11-7/8" NI-80 Floor joist @ 12" o.c.

Supports: All - Lumber Sill plate, No.1/No.2

Total length: 19'-8.0"; 5/8" nailed and glued OSB sheathing with 1 row of blocking and strapping at blocking locations This section PASSES the design code check.

Limit States Design using CSA-O86-09 and Vibration Criterion:

Filliff Office Position and								
Criterion	Analysis Value	Design Value	Unit	Analysis/Design				
Shear	Vf = 855 $Mf = 4093$	Vr = 2336 $Mr = 11609$	lbs lbs-ft	Vf/Vr = 0.37 Mf/Mr = 0.35				
Moment(+) Perm. Defl'n	$0.13 = \langle L/999$	0.64 = L/360	in	0.21 0.47				
Live Defl'n	$0.23 = \langle L/999 \rangle$ 0.36 = L/641	0.48 = L/480 0.96 = L/240	in in	0.37				
Total Defl'n Bare Defl'n	0.25 = L/920	0.64 = L/360	in	0,39				
Vibration	Lmax = 19'-2 = 0.022	Lv = 22'-11 = 0.033	ft in	0.67				
Defl'n	01022	<u> </u>						

DWG NO. TAM 8586-18 H P6 C STRUCTURAL COMPONENT DNLY

NORDIC SIZER

Nordic Sizer - Canada 6.4

Page 2

Additiona	Data									
FACTORS:		КD	KH	KZ.	KL	KT	KS	KN	LC#	
EWCTOVD:	7/2	1 00	1 00				-		#2	
Marit.	11600	1 00	1 00		1.000				#2	,
Mr+ EI	547 1 m	illion	-	-		-	-		#2	
CRITICAL LO	JAD COMB	INATIONS	•				V			
Shear	1.C #2	= 1.25	D + 1.51							
1 Momont (4	1 → T.C #9	. = 1.2"	11) + 1.51							
Deflecti	on: LC #1	= 1.00) (perma	nent)	,					
DOTTOCCT	T.C #2	= 1.0E	+ `1.0L	(live)					
	T.C. #2	= 1.00	+1.0L	(tota	1)		•	•		
	LiC #2	= 1.00	+ 1.0L	(bare	joist) 1.5L				-	
Bearing	: Suppo	rt 1 - I	ıC #2 = 1	.25D +	1.5L					
	Suppo	rt 2 - I	JC #2 ≒ 1	25D +	1.54					
Load Typ	oe∙ D≕dea	d W=wir	nd S≕sno	w H≕e	arth, grou	ındwate	er E=ear	rtnquake		
,	T.=1i.v	e (use. od	cupancy)	L\$≈l	ive(stora	ige, equ	npment/	t≃fire	ı	
All Load	Combinat	ions (LO	Cs) are l	isted.	in the An	nalysis	output			
CALCULATI	ONS:									
Dofloati	on. ETef	f = 0	513e06 lk	o-in2	K= 6,186	06 lbs	3	م دند		
"Live" d	eflection	= Defle	ection fo	com all	non-dead	i loads	g (live,	wind, s	inow)	

Design Notes:

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-09 Engineering Design in Wood standard, which includes Update No.1. CONFORMS TO OBC 2012
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.

STRUCTURAL COMPONENT ONLY

NORDIC STRUCTURES

COMPANY Apr. 24, 2017 15:42 PROJECT J6 2ND FLOOR NORDIC SIZER

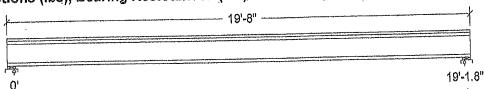
Design Check Calculation Sheet

Nordic Sizer - Canada 6.4

Loads:

had all the fact that it								
Load	Туре	Distribution	Pat- tern	Location Start	[ft] End	Magnitude Start End	Unit	
Load1 Load2 Self-weight	Dead Live Dead	Full Area Full Area Full UDL	COLI			20.00 40.00 3.4	psf psf plf	

Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



	0'		19*1.0
Unfactored: Dead Live	224 383		224
Factored: ' Total	855		855
Bearing: Resistance Joist Support Des ratio Joist Support Load case Length Min req'd Stiffener Kd KB support fcp sup Kzcp sup	2334 8609 0.37 0.10 #2 4 1~3/4 No 1.00	E. FOK &	2334 8609 0.37 0.10 #2 4 1-3/4 No 1.00 1.00 769 1.00

Nordic 11-7/8" NI-80 Floor joist @ 12" o.c. Supports: All - Lumber Sill plate, No.1/No.2

Total length: 19'-8.0"; 5/8" nalled and glued OSB sheathing with 1/2" gypsum ceiling This section PASSES the design code check.

Limit States Design using CSA-086-09 and Vibration Criterion:

			The state of the s		أ مسملت بالأكام ا	
١	Criterion	Analysis Value	Design Value	Unit	Analysis/Design	
1		Vf = 855	Vr = 2336	lbs	Vf/Vr = 0.37	
1	Shear		Mr = 11609	lbs-ft	Mf/Mr = 0.35	ı
l	Moment (+)	Mf = 4093			0.21	İ
1	Perm. Defl'n	$0.13 = \langle L/999 \rangle$	0.64 = L/360	in	0.47	l
1	Live Defl'n	$0.23 = \langle L/999 \rangle$	0.48 = L/480	in	• • • • • • • • • • • • • • • • • • • •	1
١		0.36 = L/641	0.96 = L/240	in	0.37	1
	Total Defl'n	1 0.00	0.64 = L/360	in	0.39	l
ı	Bare Defl'n	0.25 = L/920		ft	1	ì
1	Vibration	Lmax = 19'-2	Lv = 20'-6	1	0.85	1
١	Defl'n	. = 0.028	= 0.033	in	0.00	1

BWGNO.TAM BSB7-18 H P6 12 STRUCTURAL COMPONENT ONLY

Nordio Sizor - Canada 6 4

Page 2

NORDIC SIZI	ER			Noraic Si	zer – Cana	iua 0.4				
Additiona	l Data:						***	123.T	T C#	
FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	πο πο#	
Vr	2336	1.00	1,00			H	, , , .	. • .	# 4	
Mr+	11609	1.00	1.00	- .	1.000	•	~		11 Z	
EI	547.1 m	million	•••	-	. ***	: :		-	11-4	
Vr Mr+ EI CRITICAL L Shear Moment(+	OAD COME	SINATIONS	3 :				•		. *	
Shear	: LC #2	= 1.2	5D + 1.5	Lı ,						
Moment(+) : LC #2	2 = 1.2	5D + 1.5	L						
Detlecti	on: LC #1	L = 1.0	つ (わらでが	anenc,						
	ogie LC #2	$\frac{2}{2} = 1.0$	D.+ 1.OL	(live)	l 🕶 🐪					
· · ·	7 A U C	1 1 1	Direction Att.	· /+~+~1				-		
	LC #2	2 = 1.0	D + 1.0L	(bare	joist)					
Bearing	: Suppo	ort 1	LC #2 =	1.25D +	1.5L					
Bearing	Suppo	ort 2 -	LC #2 =	1.25D +	1.5L		···	1 a la a		
Load Tyr	voe i D≕dea	เพ≕พ ⊳ด	na S≔sn	OW H=ea	artin, oro	unawater	F 111 CR3.	21,44,41,114		
	7 i f ≔.ĭ	re (use. o	ccupancy) Ls=11	ive (stor	age,equ:	rbweur)	r=rire		
All Loac	Combinat	tions (L	Cs) are	listed :	in the A	nalysis	output			
L CALCULAT	IONS:									
Dofinati	ON FTO	ff =	613e06 l	b-in2 I	K = 6.18	e06 lbs	291.	- امسان	mari 1	
"Live" o	deflection	n = Defl	ection f	rom all	non-dea	d loads	(Tive,	wind, s	mow)	

Design Notes:

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-09 Engineering Design in Wood standard, which includes Update No.1.

 2. Please verify that the default deflection limits are appropriate for your application. CONFORMS TO OBC 2012
- 3. Refer to technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or Incorrect Information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequagor of this component based on the design criteria and loadings shown.

STRUCTURAL COMPONENT ONLY

T-18113105(N



(A) Proise Cascade Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B1(i237)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:20

Build 5033

Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

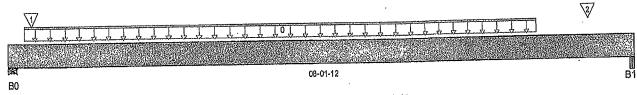
Description: Designs\Flush Beams\Basment\Flush Beams\B1(i237)

Specifier:

Designer: AJ

Company.

Msc



City the property of the prope	and the state of t		AND POSTORION OF COMMERCE AND PROPERTY OF AND		
Reaction Summary (Down / I	Jplift) (lbs) Live	De ad	Snow	Wind	
B0, 6-3/16" B1, 5-1/4"	736/0 614/0	458/0 355/0	e Version en	on the of the second	

	1000000			Live	Dead	Snow Wind	Trib.
Load Summary	Load Type	Ref. Start	En d	1.00	0.65	1.00 1.15	
Tag Description O Smoothed Load	Unf. Lin. (lb/ft)	,	06-10-10	154	77		n/a
1 -	Conc. Pt. (lbs)	PT 04 04 1-1	00 00		109		n/a n/a
2 (2/(365)	Conc. Pt. (lbs)	L 07-06-10	07-06-10	177	88		100

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
	2,292 ft-lbs	38,727 ft-lbs	5,9%	1	03-06-10
Pos, Moment	1,040 lbs	14,464 lbs	7.2%	1	01-06-01
End Shear	L/999 (0.016")	n/a	n/a	. 4	04-01-10
Total Load Defl.	1./999 (0.01")	n/a	n/a	5	04-01-10
Live Load Defl.	0.016"	n/a	n/a	4	04-01-18
Max Defl. Span / Depth	7.4	n/a	n/a		00-00-405

				De man a/ Re sistance	Resistance	1
Rearin	g Supports	Dlm.(L x W)	Demand	Support	Member	Material
B0	Wall/Plate	6-3/16" x 3-1/2"	1,677 lbs	18.2%	6.4%	Unspecified
B1	Beam	5-1/4" x 3-1/2"	1.364 lbs	17.4%	6.1%	Unspecified
ω ₁	pean	y , // w // m				•

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

DWG NG. TAM 05001814 STRUCTURAL P612 COMPONENT ONLY COMPONENT ONLY

T-U11346



Double 1-3/4" x 11-7/8" VERSA-LAN® 2.0 3100 SP Basment\Flush Beams\B1(i237)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:20

Build 5033

Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer: ...

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

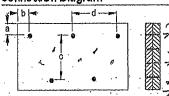
Description; Designs\Flush Beams\Basment\Flush Beams\B1(1237)

Specifier:

Designer: Company.

Msc:

Connection Diagram



a minimum = 2"

c = 7-7/8"

b minimum = 3" d = (1)

Calculated Side Load = 313.8 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record. Nails

Connectors are:

3-1/2" ARDOX SPIRAL

Disclosure

Completeness and accuracy of Input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALO®, BC FRAMER®, AJS™, ALLJOIST®, BCRIM BOARD™, BCI®, BOISE GLULAMIM, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Bolse Cascade Wood Products L.L.C.



OWEND TAMBSOON BY POR STRUCTURAL COMUNICATIONLY

T-U1846/N



(R) Holso Cascado Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B2(i327)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:21

BC CALC® Design Report



Bulld 5033 Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

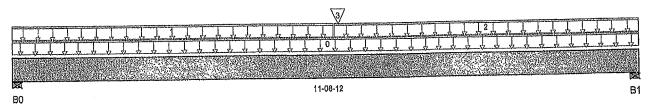
Description: Designs/Flush Beams/Basment/Flush Beams/B2(i327)

Specifier:

Designer: AJ

Company.

Misc:



Total Horizontal Product Length = 11-08-12

			námic a dotar a characta i com a sec ond	THE RESERVE THE PERSON NAMED IN COLUMN 2 I	
Reaction Summary (Down	/ Uplift) (lbs)				
Be aring	Live	De ad	Snow	Wind	
B0, 2-3/8"	322/0	235/0			
B1, 4-3/8"	411/0	282/0			

Load Summary	Load Type	Ref, Start	End	Live 1.00	De ad 0.65	Snow Wind 1.00 1.15	Trib.
O FC1 Floor Material FC1 Floor Material FC1 Floor Material FC1 Floor Material B6 ((245)	Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Conc. Pt. (lbs)	L 00-00-00 L 00-00-00 L 05-11-14 L 06-00-12	11-08-12 05-11-14 11-08-12 06-00-12	6 26	3 3 13 251	and some are	n/a n/a n/a n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,884 ft-lbs	38,727 ft-lbs	10%	1	06-00-12
End Shear	858 lbs	14,464 lbs	5.9%	1	10-04-08
Total Load Defi.	L/999 (0.055")	n/a	n/a	4	05-10-01 05-10-01
Live Load Defl.	1./999 (0.033")		n/a	. 5	05-10-01
Max Defi.	0.055"	n/a	n/a	. 4	00-00-00
Span / Depth	11.4	n/a	n/a		00-00-00

		Dim.(L×W)	De man d	MA 111 MIL MI	Demand/ Resistance Member	Material
Beari	ng Supports	IND OI W			P7 P7 0/	Lluanantilad
BO	Wall/Plate	2-3/8" x 3-1/2"	776 lbs	21.8%	7.7%	Unspecified
R1	Wall/Plate	4-3/8" x 3-1/2"	970 lbs	14.8%	5.2%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

STRUCTURAL PERSONS STRUCTURAL COMPONENT ONLY

T-1811247



(இ) Bolso Coscodo Double 1-3/4" x 11-7/8" VERSA-LAW® 2.0 3100 SP Basment\Flush Beams\B2(i327)

Dry 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:21

BC CALC® Design Report

Build 5033 Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

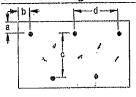
Description: Designs\Flush Beams\Basment\Flush Beams\B2(1327

Specifier:

Designer: AJ Company:

Misc:

Connection Diagram



a minimum = 2" b minimum = 3" c = 7-7/8" d = 🐠

Calculated Side Load = 88.6 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are:

, Nails

Disclosure

Completeness and accuracy of Input must be verified by anyone who would rely on output as evidence of sultability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALOD, BC FRAMER®, AJSTM, ALLJOIST®, BCRIMBOARD™, BCI®, BOISE GLULAMIM, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



owano. TAM 0509-18 H STRUCTURAL PER COMPONENT ONLY

T-181347(x)



(இ) Holso Cascado Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B3(i232)

BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:30

Trib.

n/a n/a n/a

Bulld 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B3(I232)

Specifier.

Designer: AJ

Company.

Msc:

₹	
	<u>, , , , , , , , , , , , , , , , , , , </u>
. 07-08-06 PO	B1

Total Horizonta	Product	Length	= 07-08-06
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eoutriem-terresidents-related-entre					THE RESIDENCE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN		
Reaction Sum	ma ry (D	own/l	Jplift) (lbs)		_	AND and	•
Be aring	- '		Live	Dead	Snow	Wind	
B0.	,		.462/0	283/0			
B1; 4-3/8"	•	;	240/0	170/Ò · · ·			· .
				•			

Lond Rummany			Live	Dead	Snow Wind
Load Summary Tag Description	Load Type	Ref, Start	End 1.00	0.65	1.00 1.15
0 FC1 Floor Material 1 FC1 Floor Material 2 B6((245)	Unf, Lin. (lb/ff) Unf, Lin. (lb/ff) Conc. Pt. (lbs)	L 00-00-00 L 01-11-08 L 02-00-06	01-11-08 15 07-08-06 27 02-00-06 519	8 13 269	PROFESSION

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,919 ft-lbs	38,727 ft-lbs	5%	1	02-00-06
End Shear	992 lbs	14,464 lbs	6.9%	1	01-01-14
Total Load Defl.	L/999 (0.011")	n/a	n/a	4	03-05-06
Live Load Defl.	L/999 (0.007")	n/a	n/a	5	03-05-06
Max Defl.	0.011"	n/a	n/a	4	03-05-06
Span / Depth	7.4	n/a	. n/a		00-00-00

				De mand/	Demand/		,
			17.5	Resistance	Resistance		
Bear	ing Supports	Dim. (L x W)	Demand	Support	Member	Material	
B0	Hanger	2" x 3-1/2"	1,047 lbs	20.6%	12.3%	THF35925	
B1	Wall/Plate	4-3/8" x 3-1/2"	572 lbs	8.7%	3.1%	Unspecified	

Ca utions

Hanger THF35925 requires (12) 10d face nails, (2) 10d x 1-1/2 joist nails.

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: USP Structural Connectors

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9 **CONFORMS TO OBC 2012**

STRUCTURAL COMPONENT ONLY

T-1811348A

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B3(i232)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:30

BC CALC® Design Report



Build 5033

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B3(1232

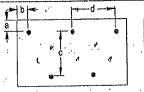
Specifier:

Designer: AJ

Company.

Misc:

Connection Diagram



a minimum ≈ 2" b minimum = 3"

c = 7-7/8" d = 🐠 '

Calculated Side Load = 144.8 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are:

3-1/2" ARDOX SPIRAL , 1 Nalls Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of sultability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current installation Guide and applicable building codes. To obtain installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALO®, BC FRAMER®, AJS™. ALLJOIST®, BC RIM BOARD™, BC/®, BOISE GLULAMIN, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS® VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Bolse Cascade Wood Products L.L.C.



DWG NO. TAM 8590, 10 H STRUGTURAL PEY COMPANIENT BNLY COMPONENT ONLY

T- Chisipful



Bolso Cascado Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B4(i316)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:30

Build 5033

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B4(i316)

Specifier:

Designer: AJ Company.

Misc:

1	2/		
٧	V		1
		09-04-02	
В0			ı

Total Ho	rizontal Pro	iduct Len	ath =	09-04-02

Manuscript Manuscript contract and	Control of the Party States of the Control of the C	Hart in this 3 fear for an order was a constructive or an order or a constructive or an order or a constructive or a con	month of the state		CA MARIA CONTRACTOR OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TO PERSO		
Reaction Sum	ımary (Dowr	1 / Uplift) (lbs)					
Be aring	• `	Live	Dead	Snow	Wind		
BO, 3-1/2"		1,232/0	726/0				, 1
B1, 6-1/4"	• .	1,197/0	665/0			•	•

1 0 0			Li	ye Dead	Snow Wind	ימוז ו
Load Summary Tag Description	Load Type	Ref. Start	End 1.0	0.65	1.00 1.46	
0 Smoothed Load	Unf. Lin. (lb/ft)	L 01-05-00	. 08-01-00 15	52 76	مامير فوري	n/a
1 B3(i232)	Conc. Pt. (lbs)	L 00-01-12	00-01-12 46	35 284	and the supplemental and the s	′ n/a
	Conc. Pt. (lbs)	L 00-09-00			All the second second	n/a
2 J2(i344)	Conc. Pt. (lbs)	L 07-00-06		15 268 <i>a</i> f	PHOLESSION	n/a
3 -		L 08-09-00				n/a
4 -	Conc. Pt. (lbs)	r 00-09-00	00-00-00 20		Mourzion 3	
•	the second second second		** ;	100	Confederation of the control of the	•

				1			acelaniense	man was med	E. 1	
Facto			Demand /	Load	Location	4	£."	EAK	e de l	.
Controls Summary Dem	and Resi	stance	Resistance	Case		u.	ls	Nerv	\$ 1	ľ
Pos. Moment 4,42	2 ft-lbs 38,	727 ft-lbs	11.4%	1	04-09-0	35	C X Marian	te commence	• /	•
		4,464 lbs	14.7%	1	07-11-0)B ₀ 1	\$ 1. Part	X A	8/	
	9 (0.045")	n/a	n/a	4	04-09-0)O 🏂	XV.	San	d .	J*.
* * ****	9 (0.029")	n/a	n/a	5	04-09-0	טנ"	AST AN	Section 1		
Max Defl. 0.04	, ,	n/a	n/a	. 4	04-09-0)O ·		Carlo contraction		
Span / Depth 8.8	· · · · · · · · · · · · · · · · · · ·	n/a	n/a		00-00-0	00			•	

			De mand/ Rosistance		
Bearing Supports	Dim. (L x W)	De man d	Support	Member	Material
BO Post	3-1/2" x 3-1/2"	2,755 lbs	34.6%	18.4%	Unspecified
B1 Beam	5-1/4" x 3-1/2"	2,626 lbs	33.5%	11.7%	Unspedfied

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

O86. -

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

COMPONENT ONLY



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B4(I316)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:30

Bulld 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:..

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

Description: Designs |Flush Beams |Basment|Flush Beams |B4(1316

Specifier:

Designer: AJ

Company: Misc:

Completeness and accuracy of Input must be verified by anyone who would rely on output as evidence of sultability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALO®, BC FRAMER® , AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAMIM, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Bolse Cascade Wood Products L.L.C.



Connection Diagram

 $c = 7-7/8^{\circ}$ a minimum = 2" d = 🐠 ' bminimum = 3"

Calculated Side Load = 419.8 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record. Connectors are: .* ' Nails

3-1/2" ARDOX SPIRAL



BWB NO. TAM 8891-1 STRUGTURAL COMPONENT ONLY

T-1811349(V)



Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B5(i241)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:31

Build 5033

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

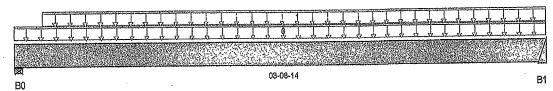
Description: Designs\Flush Beams\Basment\Flush Beams\B5(i241)

Specifier:

Designer: AJ

Company:

Misc:



Total Horizontal Product Length = 03-08-14

Company of the Control of the Contro		a la manda de la caliación de la calea de			
Reaction Summary (Down	n / Uplift) (lbs)				
Bearing	Live	De ad	Snow	Wind	
B0, 2-3/8"	425/0	224/0			
B1	464/0	243/0		• •	•
	•				

			Live	Dead	Snow Wind	Trib.
Load Summary	Load Type	Ref. Start	End 1.00	0.65	1.00 1.15	
Tag Description O FC1 Floor Material	Unf. Lin. (lb/ft)		03-08-14 10	5		n/a
1 liseri oad	Unf. Lin. (lb/ft)	L 00-02-06	03-08-14 240	120		n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	826 ft-lbs	19,364 ft-lbs	4.3%	1	01-10-10
End Shear	377 lbs	7,232 lbs	5.2%	1	01-02-04
Total Load Defl.	L/999 (0.003")	n/a	n/a	4	01-10-10
Live Load Defl.	L/999 (0.002")	n/a	· n/a	5	01-10-10
Max Defl.	0.003"	n/a	n/a	4	01-10-10
Span / Depth	3.6	n/a	n/a		00-00-00

	•			Demand/ Resistance	Demand/ Resistance	
Bearin	g Supports	Dlm , (L x W)	Demand	Support	Member	Material
BO	Wall/Plate	2-3/8" x 1-3/4"	917 lbs	51.6%	18.1%	Unspecified
B1	Hanger	2" x 1-3/4"	1,000 lbs	n/a	23.4%	Hanger

Disclosure

Completeness and acouracy of Input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALO®, BC FRAMER®, AJS™, ALLJOIST®, BCRIM BOARD™, BCK®, BOJSE GLULAM™, SIMPLE FRAMING VERSA-LAMB, VERSA-RIM

gas gade Wood

CONFORMS TO OBC 201

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

Design based on Dry Service Condition...

Importance Factor: Normal Part code: Part 9

ovend tam BS92aTeH STRUGTURAL COMPONENT ONLY

T-WIISTO



Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B6(i245)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:31

Build 5033

Job Name: Address:

City, Province, Postal Code; BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

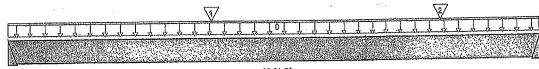
File Name: UNIT 2201 T1.mmdl

Description: Designs |Flush Beams | Basment | Flush Beams | B6(1245)

Specifier:

Designer: AJ Company.

Misc:



₿0

B1

Total Horizontal Product Length = 03-01-00

Reaction Summary (Dow	n/IInliff\/lbs\				
Bearing	Live	De ad	Snow	Wind	
B0 B1	482/0 521/0	251/0 270/0			w janaan ja

Land Order Street				Live	Dead	Snow	Wind	Trib.
Load Summary Tag Description	Load Type	Ref. Start	En d	1.00	0.65	1,00	1.15	
0 Us er Load 1 J3 (1258) 2 J3 (1257)	Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs)	L 00-00-00 L 01-02-00 L 02-06-00	03-01-00 01-02-00 02-06-00	148	120 74 58	٠.		n/a · n/a n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	766 ft-lbs	19,364 ft-lbs	4%	1	01-04-14
End Shear	439 lbs	7.232 lbs	6.1%	1	01-01-14
Total Load Defl.	L/999 (0.002")	n/a	n/a	4	01-06-09
Live Load Defl.	L/999 (0.001")	n/a	n/a	5	01-06-09
	0.002"	n/a	n/a	4	01-06-09
Max Defl. Span / Depth	2.9	n/a	n/a	2.4	. 00-00-00

				De man d/ Re elstance	Resistance		
Bearin	g Supports	Dim , (L x W)	Do man d	Support	Member	Material	
	Hanger	2"×1-3/4"	1,037 lbs	n/a	24.3%	Hanger	
B1	Hanger	2" x 1-3/4"	1,118 lbs	n/a	26.2%	Hanger	

Notes

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA CONFORMS TO OBC 20:

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Disclosure

Completeness and accuracy of Input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Bolse Cascade engineered w ood products must be in accordance with current installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALO®, BC FRAMER®, AJS™ ALLJOIST® BC RIM BOARDTM, BCIB, SIMPLE FRAMING

e Wood

BWG NO. TANI 8593-18 H STRUCTURAL COMPONENT UNLY



(இ) Bolso Cascado Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B7(i397)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:31

Bulld 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B7(i397)

Specifier:

Designer: AJ

Company.

Misc:

19-09-08 **B**1 80

Total Horizontal Product Length = 19-09-06

				SECOND CONTRACTOR OF THE PERSON NAMED IN COLUMN 1	TO POST MARKETINE		clarat (Argon Caracter and Cara
Reaction Summary (Do	own/U	lplift) (lbs)		_) N. H J.	
Be aring		Live	De ad	Snow		VVind	
B0, 5-1/2"		1,255 / 1	78170	-		•	•
B1, 4-3/8"		792/0	529/0				

	and Rumman			Live	Dead	Snow Wind	Trib.
	Load Summary Tag Description	Load Type	Rof. Start	End 1.00	0.65	1.00 1.15	
i	0 FC2 Floor Material	Unf. Lln. (lb/ft)	L 00-00-00	06-00-12 26	13		n/a n/a
	1 FC2 Floor Material	Unf. Lln. (lb/ft)	L 06-00-12	19-09-06 40	20		n/a
	2 B9 (1399)	Conc. Pt. (lbs)	L 06-02-08	06-02-08 1,334	715		n/a
	3 B9 (1399)	Conc. Pt. (lbs)	L 06-02-08	,06-02-08 -1			1 1/4

Controls Summary	Factore d Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	15,262 ft-lbs	38,727 ft-lbs	39.4%	1	06-02-08
End Shear	2,756 lbs	14,464 lbs	19.1%	1	01-05-06
Total Load Defl.	L/362 (0.632")	0.954"	66.3%	6	09-03-03
Live Load Defl.	L/586 (0.391")	0.636"	61.4%	. 8	تنسيم 03-03-99
Max Defl.	0.632"	, n/a	. n/a	. 6	09-03-02
Span / Depth	19.3	n/a	n/a	٠	00-00-003

			De mand/ Resistance	Resistance	30.
Bearing Supports	Dim. (L x W)	Demand	Support	Member	Material
B0 Wall/Plate	5-1/2" x 3-1/2"	2,8591bs	34.8%	12.2%	Unspecified
B1 Wall/Plate	4-3/8" x 3-1/2"	1,850 lbs	28.3%	9.9%	Unspecified

Notes :

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA Q86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA CONFORMS TO OBC 2012

086,

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

OVENO. TAM @594.10 H STRUCTURAL COMPONENT ONLY

T-LAU392

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B7(i397)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24; 2017 14:57:31

Bulld 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

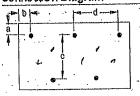
Description: Designs\Flush Beams\fist Floor\Flush Beams\B7(1397)

Specifier:

Designer: AJ Company:

Msc:

Connection Diagram



a minimum =2" b minimum = 3"

c = 7.7/8" d = 👹

Calculated Side Load = 146.3 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are:

ı Nalls

A. 3-1/2" ARDOX SPIRAL

Completeness and accuracy of Input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before Installation.

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DWG NO. TAN 8594 STRUCTURAL COMPONENT ONLY

T-18/13/260



Boise Castedo Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B8(i398)

BC CALC® Design Report

April 24, 2017 14:57:31

Dry | 1 span | No cantilevers | 0/12 slope (deg)

Build 5033

File Name: UNIT 2201 T1.mmdl Description: Designs\Flush Beams\1st Floor\Flush Beams\B8(i398)

Job Name: Address:

Specifier. Designer: AJ

City, Province, Postal Code: BRAMPTON, Customer:

Company.

Code reports:

CCMC 12472-R

Misc:

	<u> </u>		<u> </u>	7		<u> </u>	<u> </u>		Ţ <u>Ţ</u> Ţ
2			11-08-04	1					12≤0. 181
B0								•	***
		Total Ho	rizontal Product	Length = 11-0)8-04	-	ENGLISHMENT BEREFANISH AND AN AND AN AND	CONTRACTOR IN THE PERSON NAMED IN COLUMN	
Reaction Summary (Do	own / Uplift) (Ib:	De ad	ı 8	in o W	Wind				
Be aring B0, 5-1/2" B1, 2-3/4"	939/0 1,063/	. 570	/0					******	
Load Summary Tag Description	Load Typ	•	Ref. Start	End	Live 1.00	De ad	Snow 1.00	Wind 1.15	Trib.
O FC2 Floor Material FC2 Floor Material B9 (i399)	Unf. Lin. Unf. Lin. Conc. Pt.	(lb/ft) (lb/ft)	L 00-00-00 L 06-00-12 L 06-02-08	06-00-12 11-08-04 06-02-08	46	13 23 852		٠.	n/a n/a n/a
Controls Summary	Factore d Demand	Factored Resistance	Demand / Resistance	Load Case	Location		Carlos Reference	je Jene Jene 19	
Pos. Moment End Shear	10,971 ft-lbs 2,247 lbs L/911 (0.147")	38,727 ft-lbs 14,464 lbs 0.556"	15.5%	1 1 6	06-07 10-0 06-0		PAOFESS	ON	
Total Load Defl. Live Load Defl. Max Defl.	L/999 (0.093") 0.147"	n/a n/a	n/a n/a	8	06-0 06-0	0-12/3 0-12/3 0-10/2	NOVW		

Demand/ Demand/ Resistance Resistance

Support

25.8%

68%

Member

9%

20.3%

	٠.		
N	nŧ	۵	c

B0

Span / Depth

Bearing Supports

Wall/Plate

Wall/Plate

Design meets Gode minimum (L/240) Total load deflection criteria.

Dlm.(LxW)

5-1/2" x 3-1/2"

2-3/4" x 3-1/2"

11.2 .

Design meets Gode minimum (L/360) Live load deflection criteria.

Calculations as sume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

Demand

2,121 lbs

2,385 lbs

n/a

Q86,

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Material

Unspecified

Unspecified

DWO NO. TAM 8595-10 th STRUCTURAL COMPONENT ONLY

T-1811353



(A) Bollo Cascodo Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B8(i398)

April 24, 2017 14:57:31

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

Bulld 5033 Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

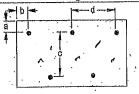
Description: Designs\Flush Beams\fst Floor\Flush Beams\B8(1398)

Specifier:

Designer: AJ

Company: Misc:

Connection Diagram



a minimum = 2" b minimum = 3"

c = 7 - 7/8" d = 889

Calculated Side Load = 294.2 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 17 - Nalls

3-1/2" ARDOX SPIRAL

Disclosure

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STRUCTURAL COMPONENT ONLY

T- L&11353/21



(E) Boliso Coscodio Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B9(i399)

BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:32

Bulld 5033 Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\89(1399)

Designer: AJ

Company.

Misc:

\ <mark>3</mark> /	,	$\overline{\Psi}$
		, , , ,
7 9 9 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		
11-0	8-08	B1

B0

Total Horizontal Product Length = 11-08-08

		Marketon Strategic Control of the Co			
Reaction Summary (Do	wn / Uplift) (lbs)				
Be aring	Live	Dead	Snow	VVind	
BO	1,585/0	854/0			
B1	1,332/0	714/0			

			Live	Dead	Snow Wind
Load Summary Tag Description	Load Type	Ref. Start	End 1.00	0.65	1.00 1.15
0 User Load	Unf. Lin. (lb/ft)	L 00-00-00	03-04-00 240	120	
1 Smoothed Load	Unf. Lin. (lb/ft)	L 01-06-00	04-06-00 115	58	ارد. محر فرارس در از
2 Smoothed Load	Unf. Lin. (lb/ft)	L 04-06-00	10-06-00 238	114	المرافع الم
3 J4(1532)	Conc. Pt. (lbs)	L 01-00-00	01-00-00 124	62	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
4 J1(1551)	Conc. Pt. (lbs)	L 11-00-00	11-00-00 220	106	PROFES

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	8,649 ft-lbs	38,727 ft-lbs	22,3%	1	06-00-00
End Shear	2,795 lbs	14,464 lbs	19.3%	1	01-01-14
Total Load Defl.	L/920 (0.15")	0.575"	26,1%	4	05-10-08
Live Load Defi.	L/999 (0.098")	n/a	n/a	5	05-10-08
Max Defi.	0.15"	n/a	n/a	4	05-10-08
Span / Depth	11.6	n/a	n/a		00-00-00

Pog	ing Supports	Dim . (L x W)	Demand	De mand/ Re sistance Support	De mand/ Resistance Member	Material
B0	Hanger	2" x 3-1/2"	3,444 lbs	67.9%	40.3%	THF35925
B1	Hanger	2" x 3-1/2"	2,891 lbs	57%	33.9%	THF35925

Cautions

Hanger THF35925 requires (12) 10d face nails, (2) 10d x 1-1/2 joist nails.

Notes

DWO NO . TAMBS 96 TO H STRUCTURAL COMPONENT ONLY

T-1811354

Trib.

n/a n/a n/a n/a n/a.



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B9(i399)

Dry 1 span | No cantilevers | 0/12 slope (deg)

. April 24, 2017 14:57:32

BC CALC® Design Report



Build 5033

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

CONFORMS TO OBC 2012

Description: Designs\Flush Beams\fst Floor\Flush Beams\B9(i399)

Specifier:

Designer: Company.

Misc:

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: USP Structural Connectors

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

O86.

Design based on Dry Service Condition.

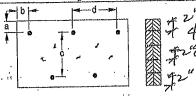
Importance Factor: Normal Part code: Part 9

Disclosure

Completeness and accuracy of Input must be verified by anyone who would rely on output as evidence of sultability for particular application. Output here based on building code-accepted design properties and analysis methods. installation of Bolse Cascade engineered wood products must be in accordance with current installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALO®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAMIM, SIMPLE FRAMING SYSTEMD, VERSA-LAMO, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Bolse Cascade Wood Products L.L.C.

Connection Diagram



c = 7-7/8" a minimum = 2" d = 🐠 b minimum = 3"

Calculated Side Load = 380.7 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record. Nalls

Connectors are: 1/7

3-1/2" ARDOX SPIRAL



BURNO.TAM 8596.18H STRUCTURAL COMPONENT ONLY

T-1/11354(N)



1st Floor\...\B10(i577) Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Dry | 1 span | No cantilevers | 0/12 slope (deg)

April 24, 2017 14:57:32

BC CALC® Design Report

Bulld 5033 Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

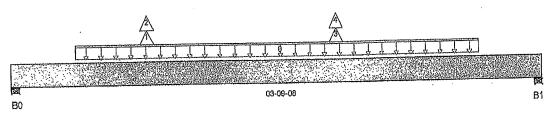
File Name: UNIT 2201 T1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B10(i577)

Specifier: Designer: AJ

Company:

Misc:



Total Horizontal Product Length = 03-09-08

	THE PROPERTY OF THE PROPERTY O		30001000141001				
Reaction Summa Bearing	ry (Down / Uplift) (lbs)	De ad 😶	Snow	Wind		•	
B0; 5-1/2" B1; 5-1/2"	96 / 567 83 / 422	0 / 50 17 / 0	138/0 138/0				
					Dead	Snow Wind	Trib.

•	, · · · ·		Live	Dead	Snow Wind	i cin•
Load Summary	Load Type	Ref. Start	End 1.00	0.66	1.00 1.15 .	
Tag Description O User Load 1 J2(I424) 2 J2(I424) 3 J2(I436)	Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs) Conc. Pt. (lbs)	L 00-05-08 L 00-11-08 L 00-11-08 L 02-03-08	03-04-00 33 00-11-08 39 00-11-08 -457 02-03-08 45	130 -209 -243	96 : 244 - 1	n/a n/a n/a n/a n/a
4 J2(i436)	Conc. Pt. (lbs)	L 02-03-08	02-03-08 -532		A second	

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location :
Pos. Moment Neg. Moment End Shear Uplift Total Load Defl. Live Load Defl. Total Neg. Defl.	171 ft-lbs -779 ft-lbs 774 lbs 913 lbs L/999 (0") L/999 (-0.001") L/999 (-0.001")	38,727 ft-lbs -38,727 ft-lbs 14,464 lbs n/a n/a n/a	0.4% 2% 5.4% n/a n/a n/a	35 22 24 22 73 84 57	01-09-08-0 02-03-08-0 01-05-00 00-00-00 01-10-07-0 01-11-01
Max Defl. Span / Depth	-0.001" 3	n/a n/a	n/a n/a	·.	00-00-00

	***		Demand/ Resistance	Resistance	
Bearing Supports	Dim. (L x W)	Demand	Support	Member	Material
BO Wall/Plate	5-1/2" x 3-1/2"		11.1%	3,9%	Unspecified Unspecified
B1 Wall/Plate	5-1/2" x 3-1/2"	617 lbs	7.5%	2.6%	onspecified

Cautions

Uplift of 913 lbs found at span 1 - Left.

Notes

owano. Tam 8892-10 H Structural COMPONENT ONLY

T-181355



1st Floor\...\B10(i577) Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

April 24, 2017 14:57:32

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

Build 5033

Job Name: Address:

City, Province, Postal Code: BRAMPTON.

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2201 T1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B10(157;

Specifier:

Designer: Al Company.

Msc:

Design meets Code minimum (L/240) Total load deflection criteria: Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

Unbalanced snow loads determined from building geometry were used in selected products verification:

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection Diagram

c= 3-15/16" a minimum = 2" d = 🕮 b minimum = 3"

Calculated Side Load = 507.0 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

·Nalls Connectors are: 1/1

3-1/2" ARDOX SPIRAL

Disclosure

Completeness and accuracy of Input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Bolse Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALO®, BC FRAMER®, AJS™, ALLJOIST®, BCRIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®; VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Bolse Cascade Wood Products L.L.C.



DWO NO. TAM 858718 H STRUCTURAL COMPONENT ONLY

T-1811355CY











Maximum	Floor	Spans	
	a Daadii o	an = 30.0st &	
(CIMPIOS DATISTUL)	TOU DE LES		Ž.
3/410SB G8NS	leanning a		<u>it</u>

			Ba	ire		<u> </u>	1/2" Gy ₍	sum Ceiling	
	Series		On Centr	e Spacing				tre Spacing	
Depth	actica .	.12"	16"	19.2"	24"	12"	16"	19,2"	24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14 ¹ -2 ⁿ	13¹-4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"
	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"	16'-5"	15'-5"	14'-3"
3-1/2"	-	18'-0"	16'-11"	16'-3"	15'-6"	18'-5"	17'-3"	16'-7"	15'-6"
	NI-70	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	15*-10"
	NI-80	17'-10"	16'-10"	16'-0"	14'-10"	18'-6"	17'-1"	16'-0"	14'-10"
11-7/8"	NI-20	19'-4"	17'-11"	17'-3"	15'-10"	19'-11"	18'-6"	17'-9"	15'-10"
	NI-40x	19'-7"	18'-2"	17'-5"	16 ^t -9"	20'-2"	18'-9"	17'-11"	17'-I"
	N1-60	20'-9"	19'-2"	181-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
17-110	NI-70	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18°-0"
	NI-80	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19¹-6"	18'-6"
	N1-90x	21'-5"	19"-10"	18°-11"	17'-5"	22 ^r -1 ^r	20°-6°	19'-6"	17'-5"
	NI-40x	21'-10"	20'-2"	19:-3"	18'-2"	22'-5"	20°-10°	191-11"	18°-10"
•	NI-60	23'-0"	21-3"	20'-3"	19-2"	23'-8"	21-11	20°-10°	19 ^r -9"
14"	NI-70	23'-5"	21:-7"	20'-7"	19 ^r -5"	2450"	22-3"	. 211-2"	20°-0"
	NI-80	24'-1"	22'-3"	21'-2"	20'-0"	24 ^r -8"	22'-10"	21-9"	20'-7"
	NI-90x	23'-9"	22*-0"	20'-11"	19'-10"	24-5"	22'-9"	21'-8"	20'-6"
	NI-60	25'-1"	23'-2"	22t-0"	20'-10"	25*-9"	23'-10"	22¹-9"	21'-6"
a Cli	NI-70	25'-6"	23*-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"-	21'-10"
16"	<i>M</i> 1-80	25-6 26 ^r -4 ⁿ	24'-3"	23'-1''	21'-10"	26'-11"	241-1111	23'-8"	22'-5"
	NI-90x	20-4				!			

			Mid-Span	Blocking		Mid-9	pan Blocking a	nd 1/2" Gypsun	n Ceiling
	Series		On Centre	e Spacing		<u> </u>		re Spacing	
Depth	Selles	12"	1.6"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17¹-9¹¹	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1" -	13'-11"
	NI-40x NI-60	18'-1"	16'-5"	15'-5"	14'-3"	18'-1"	16'-5"	15'-5"	14'-3"
9-1/2"		19'-10"	17'-11"	16'-9"	15'-6"	19'-10"	17'-11"	16'-9"	15'-6"
	NI-70 NI-80	20'-2"	18'-3"	17'-1"	15'-10"	20'-2"	18'-3"	17'-1"	15'-10"
		18'-10"	17'-1"	16'-0"	14'-10"	18'-10"	17'-1"	16'-0"	14'-10"
	NI-20 NI-40x	21'-3"	19'-3"	17'-9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10"
	• • • •	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19¹-8"	18'-5"	17'-1"
11-7/8"	NI-60	23'-4"	21'-5"	20'-1"	18 '-6 "	23'-8"	21'-5"	20'-1"	18'-6"
True	NI-70	23'-7"	21'-10"	20'-5"	18'-11"	24'-1"	21'-10"	20'-5"	18'-11"
	NI-80	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7"·	21'-3"	19'-7"
	NI-90x	24'-2"	21'-5"	19'-6"	17'-5"	24'-2"	21'-5"	19'-6"	17'-5"
	NI-40x	24'-9"	22'-5"	21'-0"	19'-6"	24'-9"	22'-5"	21'-0"	19'-6"
	NI-60	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22'-9"	21°-0"
14"	NI-70	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"
•	NI-80	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	221-411
	NI-90x	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
	NI-60	28'-8"	261-811	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
16"	NI-70	29'-1"	27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10"
TO	NI-80 NI-90x	29'-11"	27'-10"	26¹-6¹¹	24'-10"	30'-6"	281-5"	26'-11"	24'-10"

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.

2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a Joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attacked to joists.

3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and OBC 2012.

6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-1274C.



Maximum Floor Spans







			Ba	are			1/2" Gyp	osum Ceiling			
			On Centr	e Spacing			On Centre Spacing ·				
Depth	Series	12"	16"	19.2"	24"	12"	16"	19.2"	24"		
	411.00	15'-10"	15'-0"	14'-5"	13'-5"	· 16'-4"	15'5"	14'-6"	13'-5"		
	NI-20	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15*-10"	15'-2"		
	NI-40x	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3 "		
9-1/2"	NI-60	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	15'-7"	15'-11"		
	NI-70	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	27 ¹ -5"	16'-9"	16'-1"		
	NI-80	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"		
	Ni-20	19'-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"		
	N(-40x	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18 ¹ .9"	17'-11"	17'-2"		
11-7/8"	NI-60	20'-9"	19'-2"	18'-3"	17'-5"	2154"	19'-9"	18'-10"	17'-10"		
11-//0	NI-70	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"		
	NI-80	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"		
	NI-90x	21'-5"	19'-10"	18'-11"	17'-11"	22'-1"	20'-6"	19'-7"	18°-7"		
	NI-40x	21'-10"	20'-2"	19'-3"	18¹-2"	22'-5"	20'-10"	19"-11"	18'-10"		
	NI-60	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20°-10°	19-9"		
14"	NI-70	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	225-3"	215-215	20°-0"		
	NI-80	24'-1"	22 ^r -3 ⁿ	21'-2"	20'-0"	24°-8"	22'-10"	21°-9"	20'-7"		
	NI-90x	23-9"	22'-0"	20 ^r -£1 ⁿ	19-10	24 ^r -6 ^r	22'-9"	21*-8"	20°-6°		
	NI-60	25-1"	23*-2"	22'-0"	20°-10°	25-9"	23'-10"	22 ¹ -9"	21'-6"		
acii	NI-70	25'-6"	23"-6"	22'-4"	21"-2"	26 ^t -1"	24-2	23'-1"	21'-10"		
16"	NI-80	26-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22 ^r -5"		
	NI-90x	20.4									

	141 50/0		Mid-Span			. vuist c	nan Blockin	d a fall comme	C-111
			- Mid-Span Blocking and 1/2" Gypsum Ceiling OnCentre Spacing						
	Series		On Centre			dall			
Depth	Julio L	12"	16 ¹⁷	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
		18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
	NI-40x	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
9-1/2"	MI-60	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17¹-10"	16'-7"
	NI-70	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
	NI-80	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-20	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	171-8"
	NI-40x	22'-1"	20'-7"	191-7"	18 - 4"	22'-8"	20'-10"	19'-8"	18'-4"
. m (all	MI-60	23'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"	21'-2"	19'-9"
11-7/8"	Ni-70	23'-7"	21'-11"	20'-11"	19'-9"	24'-1" ·	221-6"	21'-5"	20'-0"
	NI-80	23 -7 24'-3"	22'-6"	21'-6"	20'-4"	24'-8"	23°-0"	22'-0"	20'-9"
	NI-90x	24'-5"	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-40x	24'-3" 24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
	NI-60	24-10 26'-1"	24'-3"	23'-2"	21'-10"	26'-8"	24'-11"	231-9"	22'-4"
14"	NI-70		24'-7"	23'-5"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	<i>NI-</i> 80	26'-6"	25'-4"	24'-1"	22'-9"	27'-9"	25'-11"	24'-8"	23'-4"
	NI-90x	. 27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	241-911	23'-1"
	NI-60	27'-3"	25'-8"	25'-4"	23'-11"	29'-3"	27¹-4"	26'-1"	24'-8"
	NI-70 ·	28'-8"	20 <i>-</i> 2	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
16°	NI-80	29'-1"	27-0 27'-10"	25'-6"	25'-0"	30'-6"	28'-5"	27'-2"	25'-8"
	NI-90x	29'-11"	21-10	20 -0	20 0	J			43.0

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The 1. Maximum clear span applicance to simple span consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L ± 1.25D. The serviceability limit states include the consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L ± 1.26D. The serviceability limit states include the consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L ± 1.26D. The serviceability limit states include the consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L ± 1.26D. The serviceability limit states include the consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L ± 1.26D. The serviceability limit states include the consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L ± 1.26D. The serviceability limit states include the consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L ± 1.26D. The serviceability limit states include the consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L ± 1.26D. The serviceability limit states include the consideration for floor vibration, under the factor of 1.50L ± 1.26D. The serviceability limit states include the consideration limit of 1.74D. unumate in the Science of Living and a total load deflection limit of L/240.

a live load deflection minicular process of 3/4 inch for a joist 2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist 2. Spans are based on a composite floor may include 1/2 inch gunsum colling and/or one your of blad in a training and include 1/2 inch gunsum colling and/or one your of blad in a training and include 1/2 inch gunsum colling and include 1/2 inch gunsum 2. Spans are based on a composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping, spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. spacing or 24 micros or ress. The compared to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. Strapping Shan De minimum 244 minimum bearing length shall be 1-3/4 inches for the end bearings.

^{3.} Minimum bearing length shall be 2-0/4 minimum bearing length shall be 2-0/4 minimum bearing signed in this table, except as required for hangers.

4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

^{4.} Bearing stimeners are not required which i joint of the specific stimeners are not required for hangers.

5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required.

This span chart is based on uniform properties. Tables are based on limit States Decimo per CSA OBE.OB MICE 2010 CALLED AND CA 5. This span chart is based on the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and OBC 2012. based on the use of the design properties.

based on the use or the design proported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. 6. Joists small be later any supported accomplished in CCMC evaluation report 13032-R and APA Product Report PR-L274C, guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.











			Ba	re			1/ 2" Gyp	sum Ceiling			
ماعمد	Series		On Centr	e Spacing			On Centre Spacing				
Depth	Delica	12"	16"	19.2°	24"	12"	16"	19.2"	24"		
	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A		
	NI-40x	16'-1"	15'-2"	14'-8"	n/a	16'-7"	15'-7"	15'-1"	N/A		
9-1/2"	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A		
9-1/4	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A		
	NI-80	17 ⁱ -3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A		
	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A		
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A		
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A		
11-7/8"	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A		
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11'	N/A		
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18-5"	N/A		
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19 ^r -4 ⁿ	18°-5"	N/A		
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A		
1 4°	NI-70	21'-7"	20'-0"	19'-1"	N/A	2253n	20'-7°	19 ¹ -8 ⁱ¹	N/A		
3.4	NI-80	21'-11"	20'-3"	19 ^t -4"	N/A	22'-7"	20°-11"	20'-0"	N/A		
	NI-90x	22'-7"	20'-11" -	19'-11"	N/A	235-311	21'-6"	20'-6"	N/A		
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23°-£" -	21'-5"	20'-6"	N/A		
	NI-70	23'-6"	21-9"	20'-9"	N/A	24'-3"	22-5"	21'-5"	N/A		
1 6"	NI-80	23'-11"	22'-1"	21-1"	N/A	24'-8"	22'-10"	21-9"	N/A.		
•	NI-90x	24°-8°	22 ^t -9 ^u	21-9"	N/A	25 ⁴	23'-5"	22'-4"	N/A		

			Mid-Span	Blocking		Mid-S	ipan Blockingan	d 1/2" Gypsum	Ceiling	
مادر	Series		On Centro				On Centre Spacing			
Depth	101100	12 ⁿ	16 ¹¹	19.2"	24"	12"	16 ^{tr}	19.2"	24"	
	:Ni-20	151-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A	
	NI-40x	17'-9"	16¹-1"	15'-1"	N/A	17-9"	16'-1"	15'-1"	N/A	
04/211	NI-60	18'-1"	16'-4"	15'-4"	N/A	18'-1"	16'-4"	15¹-4"	N/A	
9-1/2"	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"	16'-9"	N/A	
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"	17'-1"	N/A	
	Ni-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	15'-0"	N/A	
	NI-40x	21'-0"	19'-3"	17'- 9"	N/A	21'-3"	19'-3"	17'-9"	N/A	
11-7/8"	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"	18'-5"	N/A	
	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21-4"	20"-0"	N/A	
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-5"	N/A	
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21¹-2"	N/A	
	NI-40x	231-711	21'-5"	19'-6"	N/A	24'-1"	21'-5"	19'-6"	N/A	
	NI-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"	21'-0"	N/A	
11	NI-70	251-311	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-9"	N/A	
14"	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A	
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A	
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"	23'-4"	N/A	
	. NI-70	27¹-9¹¹	25'-8"	24'-6"	N/A	28'-5"	26'-5"	· 25'-2"	N/A	
16"	. NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A	
70	NI-90x.	29'-0".	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26 ¹ -2"	N/A	

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.

2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.

3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required.

^{4.} Bearing summers are not required without place of a split allowed the constraints and specific section with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and OBC 2012.

based on the use of the design properties. Tables the Discharge of the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterany supported at supports and commission for each of the shall be laterany supported at supports and commission for guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-1274C, guidelines and construction details.











			Ва	are			1/2" Gyr	sum Celling			
- 46	Series		On Centr	e Spacing			On Centre Spacing				
Depth		· 12"	16"	19.2"	24"	12"	16"	19.2"	24 ¹¹		
	NJ-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14-8"	141-211	N/A		
	NI-40x	16¹-1"	15'-2"	14' - 8"	N/A	16'-7"	15'-7"	15'-1"	N/A		
0.4 (2)1	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	,15'-3"	N/A		
9-1/2"	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A		
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	1640"	N/A		
	NI-20	16'-11"	16'-0"	15'-\$"	N/A	17'-6"	16.6"	16'-0"	N/A		
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	1.8'-9"	17:6"	16'-11''	N/A		
	NI-60	18'-4"	17'-3"	36'-7"	N/A	19'-0"	17 ' 8"	17'-1"	N/A		
11-7/8"	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17 ^t -9"	N/A		
•	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18 ¹ 10°	17'-11"	N/A		
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	1953"	18°-5"	N/A		
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19.4°	18 ⁻ -6"	N/A		
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18 <u>-9</u> -	N/A		
aall	NI-70	21'-7"	20°-0"	19'-1"	N/A	22 ^t -3 ⁿ	20'-7"	19 ^t -8"	N/A		
14"	NI-80	21-11"	20'-3"	19*-4"	N/A	22'-7"	20'-11"	201-0"	N/A		
	• NJ-90x	22'-7"	20'-11"	191-11 ¹¹	N/A.	23'-3"	21.5"	20'-6"	N/A		
	NI-60	22'-3"	20-8"	19'-9"	N/A	23'-1"	21.5"	20'-6"	N/A		
	NI-70	23°-6"	21'-9"	20'-9"	N/A	24-3"	22'5"	21'-5"	N/A		
16 "	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10°	21'-9"	N/A		
	NI-90x	24 ^t -8 ⁿ	22'-9"	21'-9"	N/A	25'-4"	23'5"	22 ^t -4 ⁿ	N/A		

		Mid-Span Blocking On Centre Spacing				Mid-Span Blocking and 1/2" Gypsum Ceiling On Centre Spacing			
Depth	Series								
		12"	16"	19.2"	24"	12"	16"	19,2"	24"
9-1/2"	NI-20	16'-8"	15'-3"	14'-5"	N/A	16'-8"	15'-3"	14'-5"	N/A
	NI-40x	17'-11"	. 16'-11"	16'-1"	N/A	18'-5"	17'-1"	16'-1"	N/A
	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	N/A
	NI-70	19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	N/A
	NI-80	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"	17'-8"	N/A
	NI-20	19'-6"	18'-1"	17'-3"	N/A	19'-11"	18'-3"	17'-3"	N/A
11-7/8"	MI-20 NI-40x	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A
		21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-6"	N/A
	NI-60	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	NI-70	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
	NI-80	231-4"	21¹-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-90x	23'-7"	21'-11"	20'-11"	N/A	241-311	22'-7"	21'-7"	N/A
14"	NI-40x	24'-0"	22'-3"	21'-3"	N/A	24'-8"	22'-11"	21'-11"	N/A
	NI-60	25'-3"	23'-4"	22'-3"	N/A	251-10"	241-011	22'-11"	N/A
	NI-70	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-80	26'-4"	24'-4"	231-311	N/A	26'-10"	24'-11"	23'-9"	N/A
	NI-90x	26'-5"	24'-6"	23'-4"	N/A	27'-2"	25¹-3º	241-211	N/A
16"	NI-60	26-5 27'-9"	25'+8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	
	NI-70	27 - 9 28'-2"	25'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-80		26'-10"	25'-7"	N/A	29'-7"	27'-5"	25 '- 2"	N/A
	NI-90x	29'-0"	20 -10					20-2	N/A

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The 1. Maximum crear span approaches a simple open the control of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration,

ultimate limit states are used in the factor of load deflection limit of I/240.

a live load deflection limit of I/840 and a total load deflection limit of I/240.

2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist 2. Spans are based on a composite floor many include 1/2 inch groups calling and/or one row of blooking. 2. Spans are pased on a composite more may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping, spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. spacing or 13.2 mules or less the composite not may included a minimum to include a minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. Strapping shall be minimum bearing length shall be 1-3/4 inches for the end bearings.

3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

^{4.} Bearing surrences are not required for hangers.
5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and 0BC 2012.

based on the use of the design profession and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists small the locations supported to approximate the state of th

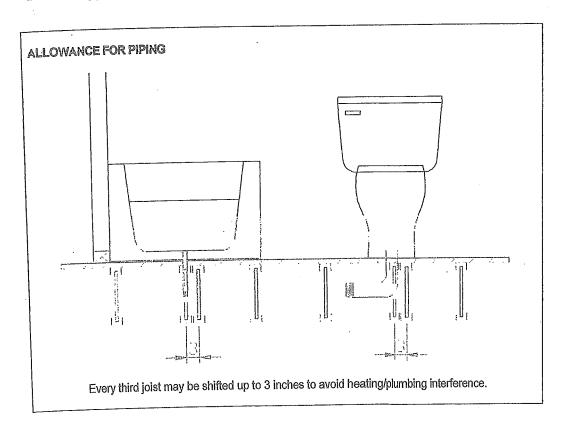


Allowance for Piping (Installation Notes)

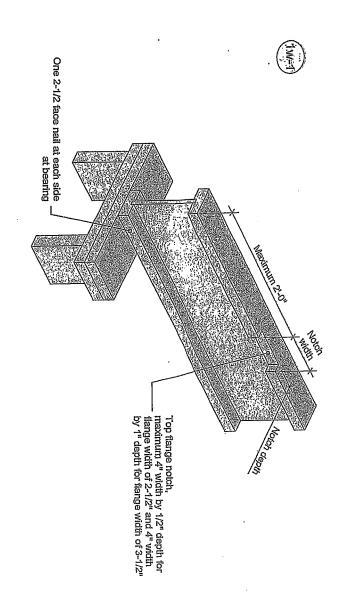
The floor layouts have usually not been checked for heating and/or plumbing interference. On-site adjustment of joists of up to 3 inches is permitted to avoid interferences. When moving a joist, the subfloor thickness shall be checked with code requirements when the joist spacing exceeds 19.2 inches. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.

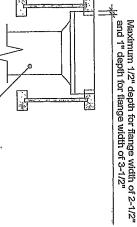
Installation of Nordic I-joists shall be as per *Nordic Joist Installation Guide for Residential Floors*. Refer to Tables 1 and 2 for maximum web hole and duct chase openings, respectively. These tables are based on the I-joists being used at their maximum spans. The minimum distance given may be reduced for shorter spans; contact your distributor for additional information.

The detail below shows the 3-inch allowance for piping. Every third joist may be shifted up to 3 inches to avoid heating/plumbing interference. For other applications, please contact your distributor.



Revised April 12, 2012





Heat register

Blocking required at bearing for lateral support, not shown for clarity.
 The maximum dimensions for a notch on the side of the top flange are 4-inch width by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch width by 1-inch depth for flange width of 3-1/2 inches.
 This detail explices to simple-span joists and multiple-span joists where the notch is located at the end half-span.
 For other applications, contact Nordic Structures.

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STRUCTURES

Notch in I-joist for Heat Register

This document supersedes all previous versions. If the document has been in effect for more than one year, consult nordic or contact Nordic Structures.

All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for diarrity.

I-joist - Typical Floor Framing and Construction Details

NUMBER

2018-04-10

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