

		Products		
PlotiD	Length	Product	Plies	Net Qty
J1	14-00-00	11 7/8" NI-40x	1	11
J2	12-00-00	11 7/8" NI-40x	1	14
J3	10-00-00	11 7/8" NI-40x	1	12
J4	20-00-00	11 7/8" NI-80	1	26
В9 -	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	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
B7	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		
1	НЗ	HGUS410		
1	H3	HGUS410		

HANGER NOT REQ'D
STLEM J1/ B12 CONNECTION

FIRM BCIN 28103 & DESIGNER BCIN 23991



FROM PLAN DATED:

BUILDER: ROYAL PINE HOMES

SITE: FORESTSIDE ESTATES

MODEL: UNIT 2202 T2

**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 JOIST'S 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

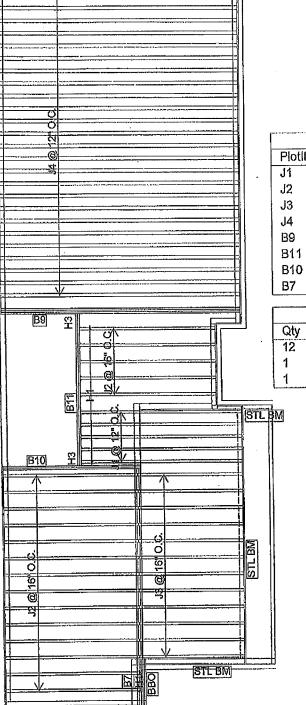
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-04-04

2nd FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
Ji	14-00-00	11 7/8" NI-40x	1	5
J2	12-00-00	11 7/8" NI-40x	1	19
J3	10-00-00	11 7/8" NI-40x	1	12
J4	20-00-00	11 7/8" NI-80	1	26
В9	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

	Connector Summary				
Qty	Manuf	Product			
12	H1	IUS2.56/11.88			
1	НЗ	HGUS410			
1	H3	HGUS410			

FIRM BCIN 28103 DESIGNER BCIN 23991



FROM PLAN DATED:

**BUILDER: ROYAL PINE HOMES** 

**SITE:** FORESTSIDE ESTATES

MODEL: UNIT 2202 T2

**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:

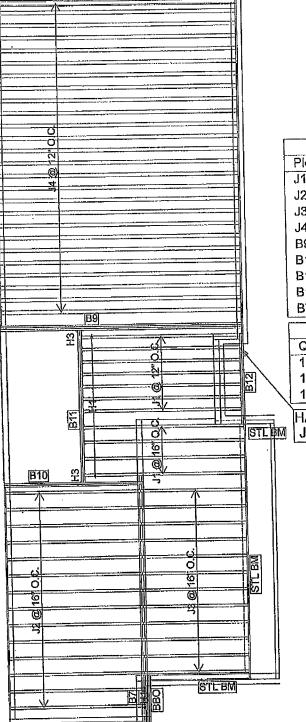
DESIGN LOADS: L/480.000 LIVE LOAD; 40.0 lb/ft<sup>2</sup> DEAD LOAD; 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-04-04

2nd FLOOR

OPTION



Products				
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	11 7/8" NI-40x	1	11
J2	12-00-00	11 7/8" NI-40x	1	14
J3	10-00-00	11 7/8" NI-40x	1	12
J4	20-00-00	11 7/8" NI-80	1	26
B9	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
Б9 В11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12 B7	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			
1	H3	HGUS410			
1	H3	HGUS410			

HANGER NOT REQ'D

STLEM J1/ B12 CONNECTION

FIRM BCIN 28103 DESIGNER BCIN 23991



FROM PLAN DATED:

BUILDER: ROYAL PINE HOMES

SITE: FORESTSIDE ESTATES

MODEL: UNIT 2202 T2

**ELEVATION: B** 

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
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CANTILEVERED JOISTS INCLUDING CANT'
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ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR
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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

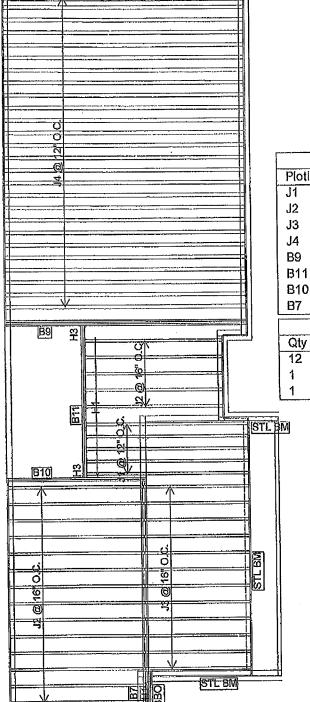
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-04-04

2nd FLOOR



Products					
PlotiD	Length	Product	Plies	'Net Qty	
J1	14-00-00	11 7/8" NI-40x	1	5	
J2	12-00-00	11 7/8" NI-40x	1	19	
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J4	20-00-00	11 7/8" NI-80	1	26 .	
B9	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2 .	
B10	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B7	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	

Connector Summary				
Qty	Manuf	Product		
12	H1	IUS2.56/11.88		
1	H3	HGUS410		
1	H3	HGUS410		

FIRM BCIN 28103 DESIGNER BCIN 23991



FROM PLAN DATED:

**BUILDER: ROYAL PINE HOMES** 

SITE: FORESTSIDE ESTATES

MODEL: UNIT 2202 T2

**ELEVATION: B** 

LOT:

CITY: BRAMPTON

SALESMAN: M D DESIGNER: AJ REVISION:

MOTEO

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:

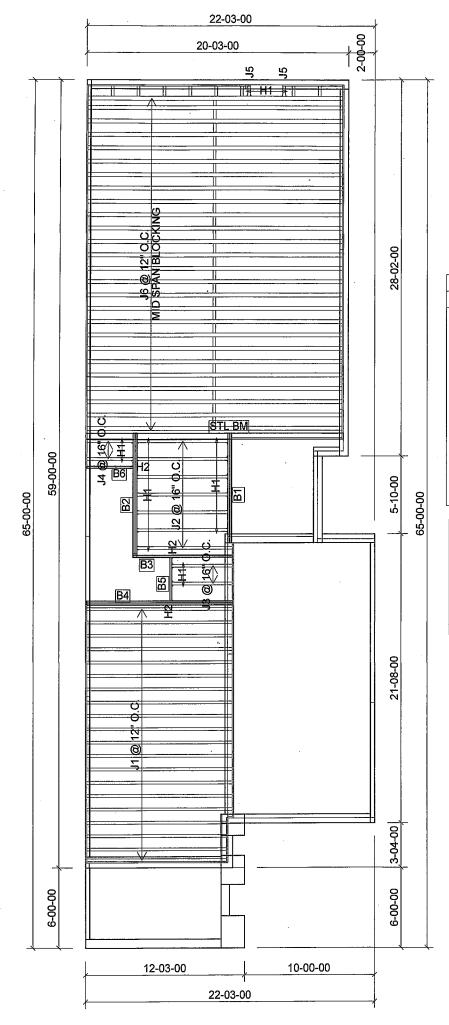
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup>

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-04-04

2nd FLOOR

OPTION



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	11 7/8" NI-40x	1	20
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	26
B4 🖊	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
B2 /	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	1	1
B5./	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B6 <sup>-</sup>	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	H2	HUS1.81/10			
2	H2	HUS1.81/10			

### 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 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/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup> 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 2202 T2

**ELEVATION:** A

LOT:

**CITY: BRAMPTON** 

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

DATE: 4/25/2017

1st FLOOR

**STANDARD** 

### DATE 1/218

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.

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

AND THE PROPERTY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE

THE PROPERTY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURE INSTALLED AND TO BEAUTH AND THE PROPERTY OF THE PROPER 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# TAMBOLY1814 THROUGH DWG# TAM 8619-1814

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

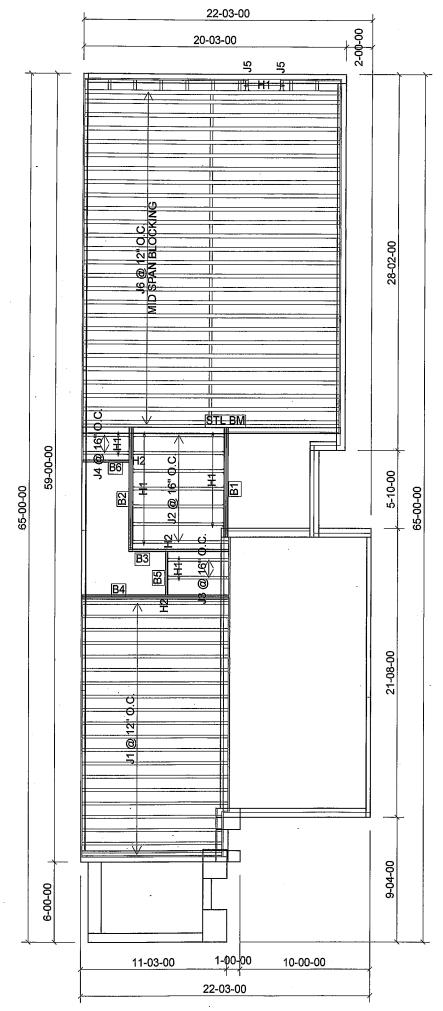
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION 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 1/160 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\_ BCIN: 26064 FIRM: 29991 SEALED STRUCTURAL

3097618



Products				
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	11 7/8" NI-40x	1	20
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	26
B4 ′	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
B2/	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	1	1
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	H2	HUS1.81/10		
2 ·	H2	HUS1.81/10		

### **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 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

LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup> TILED AREAS: 20 lb/ft<sub>2</sub>

APPLICATION AS PER O.B.C. 9.30.6.

SUBFLOOR: 5/8" GLUE AND NAIL



FROM PLAN DATED: FEB-2017

**BUILDER:** 

ROYAL PINE HOMES

SITE:

**FORESTSIDE ESTATES** 

MODEL: UNIT 2202 Tユ

**ELEVATION: B** 

LOT:

**CITY: BRAMPTON** 

SALESMAN: M D DESIGNER: AJ REVISION:

**DATE:** 4/25/2017

1st FLOOR

**STANDARD** 

DATE 1/NIB

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 SUPPLUS OR DEFICIT OF PRODUCTS AT
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REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 861918H THROUGH DWG# TAM 961918H INCLUSIVE DATED 11718

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 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

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 G R 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 1/16D 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 3097778
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL

ATEGORIES

Depth

9-1/2"

11-7/8"

NI-40x

NI-60

NI-80

NI-70

FIELD-CUT HOLE LOCATOR

OSB 7/16

Attach 1-joist to top

2-1/2"

3-1/2"

(1k)

Filler . block

(1d)

NI.90

OSB 716" → 4-





1-1/2 OSB 3/8"-> <-2400f MSR NPG Lumber S-P-F No.2 1950f MSR 2100f MSR 1950f MSR 2100f MSR 33 pieces 33 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 centreline 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.

  3. Whenever possible, field-cut holes should be centred on the middle of the web.
- mum 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.

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

1'-6" 2'-10" 4'-3" 5'-8" 1'-6" 3'-0" 4'-4" 6'-0" 2'-6" 4'-0" 5'-4" 7'-0" 3'-4" 4'-9" 6'-3" 8'-0"

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

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

6-1/4 7 8 8-5/8 9

- 5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hale 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 larges 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 hase openings.

10 10-3/4 11 12 12-3/4

- Holes measuring 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
- 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

OSB 3/8" -> 4

NI-40x

OSB 3/8"->

NI-20

- illustrated in Figure 7. 11. Limit three maximum size holes per span, of which one may be
- 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.

#### **DUCT CHASE OPENING SIZES AND LOCATIONS**

Simple Span Only

Joist	Joist	Minimum distance from inside face of supports to centre of opening (ft - in.)  Duct Chase Length (in.)								
Depth	Series									
- COP	00.100	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'-1
	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
14"	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"		11'-5"	11'-9"	12'-4"	12'-1
	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"		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'-1
	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 I-joist spacing of 24 inches 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 I/480.
   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.

		Minimum distance from inside face of supports to centre							pening (	ft - in.)
Joist Depth	Joist Series	Duct Chase Length (in.)								
Dopin	001103	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"
1	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"
3.49	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'-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"
1	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"

- 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
- load greater than 2.370 lbs is applied to the top flange between supports or in the case of a contilever, anywhere between the contilever 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.

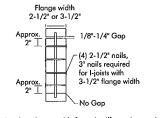
#### WEB STIFFENER INSTALLATION DETAILS

11-7/8" 14" 16"

9-1/2" 11-7/8"

14" 16"

9-1/2"



Gop -/

CONCENTRATED LOAD

web Stiffener Size

#### END REARING STIFFENER SIZE REQUIREMENTS

,	(	
nt	Gap —	Fla Wi
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2-
	]   •	3-

Width	Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

#### SAFETY AND CONSTRUCTION PRECAUTIONS

rule 12



Do not walk on I-joists until fully fastened and braced, or



Never stack building materials 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:

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.
 Distances in this chart are based on uniformly 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.

2x duct chase length

3/4x

Maintain minimum 1/8" space between top an-

bottom flange - all duct chase openings and holes

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

Duct chase opening (see Table 2 for minimum

- 2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover
- 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 I-joists.

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

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic Ljoists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.



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

possible, it is preferable to use knockouts instead of field-cut holes

For rectangular holes, avoid over-cutting the corners, as this can cause

ary stress concentrations. Slightly rounding the corners is

in each of the four corners and then making the cuts between the holes is

recommended. Starting the rectangular hole by drilling a 1-inch diameter hole

Never drill, cut or notch the flange, or over-cut the web

another good method to minimize damage to the I-joist.

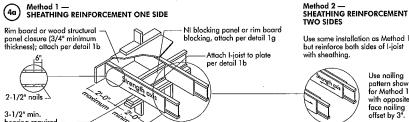
Holes in webs should be cut with a sharp saw.

#### 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, pen utilized in accordance with our handling and installation instructions will meet or exceed our specifications for the lifetime of the structure.

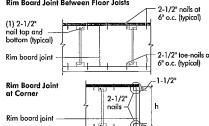
## CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET



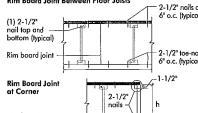
NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail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

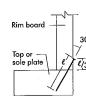
### **RIM BOARD INSTALLATION DETAILS**











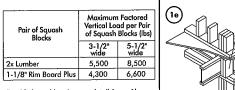


standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d. One 2-1/2" wire or spiral nail at top and bottom flana Attach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c.

> 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 plate.

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

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



Maximum Factored Uniform

Vertical Load\* (plf)

3,300

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

Minimum Depth\*\*

5-1/2"

7-1/4

Blocking Panel or Rim Joist

required for decking)

Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a

double 1-joist, drive three additional 3" nails through the webs and filler block where the

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

(lm)

– Filler

damage to web/flange connection.

detail 1p

capacity = 1,620 lbs.

Support back of I-joist web during nailing to prevent

Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top I-joist flange.

4. Nail joists together with two rows of 3" nails at 12 inches

o.c. (clinched when possible) on each side of the double

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.

I-joist. Total of four nails per foot required. If nails can be

3. Filler block is required between joists for full length

clinched, only two nails per foot are required.

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

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

backer block will fit. Clinch, Install backer tight to top flange. Use twelve 3" nails, clinched

squash blocks

NI or rim board blocking

Flange Width Material Thickness Required\*

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

FILLER BLOCK REQUIREMENTS FOR DOUBLE 1-JOIST CONSTRUCTION

- Offset nails from

opposite face by 6

- 2x plate flush with inside face of wall

past inside face of wall or beam

sides laterally support

stiffeners shall be used

installed per manufacturer's

panel per detail 1a

Provide lateral bracina per detail 1a or 1b

Backer block attached per

nails, clinch when possible.

Install hanger per

2-1/2" x

1-1/2"

1-1/2"

3-1/2" x

manufacturer's

from above t Install squash blocks per Match bearing area of blocks below to pos

per detail 1h 2-1/2" nails at 6" o.c. to top plate

the top flange, bearing

1-1/8" Rim Board Plus

Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by

(ii)

Blocking required over all interior supports under load-bearing walls or when floor joists are not continuous over support - NI blocking panel per detail 1a

Structural Composite Lumber (SCL)

For nailing schedules for multiple

beams, see the manufacturer's

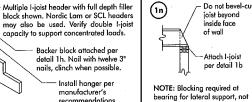
Double I-joist header NOTE: Unless hanger sides laterally support

Filler block thath sides for face mount hangers)

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

recommendations. Top- or face-mount hanger installed per manufacturer's NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used

Nordic Lam or



Filler Block Size

2-1/8" x 6"

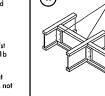
2-1/8" x 8"

2-1/8" x 10"

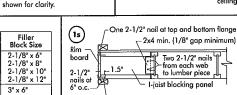
2-1/8" x 12"

3" x 8" 3" x 10" 3" x 12"

3" x 7"



(1r) Lumber 2x4 min., extend block to face of adjacent web. Two 2-1/2" spiral nails rom each web to lumber piece, alternate on opposite side. NI blocking panel OPTIONAL: Minimum 1x4 inch strap applied to underside of joist at blocking line or 1/2 inch minimum gyps ceiling attached to underside of joists



One 2-1/2" nail one side only NOTES:

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.

are assumed to be noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) on wire nails Framing lumbe pruce-Pine-Fir No. 2 or better, Individua components not sn to scale for clarity.

All nails shown in the above details

### **WEB STIFFENERS**

-1/8" to 1/4" gap between top flange

## A bearing stiffener is required in all engineered applications with factored

- 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

See the adjacent table for web stiffener size requirements

Application and the properties of the Building number, street name  Municipality CITY OF BRAMPTON   Postal code   Plan number/ other description    B. Individual Wino reviews and targs responsibility for design activities    Name   CALL   For   Plan number   Call number   Call number    Name   CALL   For   Plan number   Call number    Name   CALL   Plan number   Plan number    Name   CALL   Plan number   Call number    Name   CALL   Plan number   Plan number    Name   CALL   Plan number   Plan number   Call number    Name   CALL   Plan number   Plan number   Call number    Name   CALL   Plan number   Call number    Name   CALL   Plan number   Plan number   Call number    Name   Call number   Call number   Call number    Name   Call number   Call number   Call number    Name   Call number   Call number	ં	Jse one form for each individual who	reviews and takes re	sponsibility for design act	villes with respect to u	le project.	
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B individual who reviews and takes responsibility for design activities  Name    Name			•		*	•	
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Street address   CANACON   CARE   CANACON	<b>1</b>	R: sindividual who reviews an	d takes responsibil	ity for design activitie	S		
Street address    Municipality   Postal Code   Province   E-mail		Name	_	Firm STRACON C	ENKINZERUNG	INC.	
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Part			LABON	ONTARIO	Cell number		
Complex cityries undertaken by individual relentified an Section B.   Building Gode Table 3.5.2 1.6.2		Telephone number	(900) 9	322-0286	,		
Division   Division   House		Design activities undertak	en by individual id	entified in Section B.	(Building Gode Tal	ole 3.5.2.41 of	
House   Buildings   Building Services   Plumbing - House   Buildings   Buildings   Detection, Lighting and Power   Plumbing - All Buildings   Detection, Lighting and Power   Plumbing - All Buildings   Description of designer's work ROYAL PINE HOMES - FOREST SIDE - MODEL: UNIT 2202 - T2 - ELEV. B 2ND FLOOR (SCHEDULE'IS NOT ISSUED AS LOT SPECIFIC)   REVIEW PRE-FROINCERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK ROOF TRUSSES INC. (SEE DWG #TAMA9080-18 DATED 11-12-18). SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.    Declaration of Designer   Level	Sirrage	Division C)				A STATE OF THE PARTY OF THE PAR	
Large Buildings	ſ		LJ HVAC M Buildi	; House na Services	☐ Plumbing -	- House	
Description of designer's work ROYAL PINE HOMES - FOREST SIDE - MODEL: UNIT 2202 - T2 - ELEV. B 2ND FLOOR (SCHEDULE IS NOT ISSUED AS LOT SPECIFIC) REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK ROOF TRUSSES INC. (SEE DWG #TAM30804.18 DATED 11-12-18). SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.  D. Declaration of Designer  I, COMPAN SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.  D. Declaration of Designer  I, COMPAN SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.  D. Declaration of Designer  I, COMPAN SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.  D. Declaration of Designer  I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4 of Division C, of the Building Code. Individual BCIN:  D. Treview and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5 of Division C, of the Building Code.  Individual BCIN:  D. Basis for exemption from registration:  D. 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:  1. The information contained in this schedule is true to the best of my knowledge.  2. I have submitted this application with the knowledge and consent of the lim.		☐ Large Buildings	☐ Detec	ction, Lighting and Power	☐ Plumbing —	All Buildings	
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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:  1. The information contained in this schedule is true to the best of my knowledge.  2. I have submitted this application with the knowledge and consent of the firm.		Firm BCIN:	28103				İ
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Use one form for each individual who review	vs and takes res	ponsibility for design activitie	s with respect to the	project.
A. Project Information Building number, street name		Application in .	Unit no.	Lot/con.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other descrip	tion	
B. Individual who reviews and takes	stresponsibili			National States
Name EDWIN C. FOK		Firm STRAGON ENG	INGERING IN	C
Street address 69 GRAYDON CRES.			Unit no.	Lot/con.
Municipality  RICHHOND How	Postal code	Province ONTARIO	E-mail	
Telephone number (905) 882-225 (	Fax number	8820286	Cell number	
-C. Design activities undertaken by			i liding:Codé Table	3.5:21 of
Division Cl.	☐ HVAC	Истор	図 Building Stru	atural
☐ House☐ Small Buildings	☐ Buildin		☐ Plumbing - H	
☐ Large Buildings		on, Lighting and Power	☐ Plumbing — All	
☐ Complex Buildings	☐ Fire Pr	otection	☐ On-site Sewa	ge Systems
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SUPPORTING STRUCTURE TO BE REVI	EWED AND VE	RIFED BY QUALIFIED BUILD	ING DESIGNER.	
D. Declaration of Designer				
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(print nam	ne)			
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Date APRICI7, 2015		Signature of Designer	* V ·	

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Use one form for each individual who review	is and takes res	sponsibility for design activity	STATE OF THE PARTY	STORES OF STREET
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Building number, street name			Unit no.	Lot/con.
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		-5 (500) 07 14	Unit no.	Lot/con.
Street address			Official.	Loudon
_ 69 GLAYDON CLES;	Postal code	Province	E-mail	
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Telephone number		8820286	OCH Harrison	
(905) 882-2230	905)	082200		Sometiment of the second second
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Division CI				
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☐ Small Buildings	☐ Buildin		☐ Plumbing – H	
11 777 1 1 1 1		on, Lighting and Power	☐ Plumbing — Al	
	☐ Fire Pr		☐ On-site Sewa	
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(print nam	e)			
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Anni 10 0016	<b>&gt;</b>	Signature of Designer	1 - Y	
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RATION C. FOK		Firm STREAGN GA	VG INEGRING	_ [N.C.
Street address			Unit no.	Lot/con.
Sheet address (VAYOR) (	ES.)			
Municipality	Postal code	Province	E-mail	
RICHHOND HIM	LEAB3K17	ONTARIO	ļ	
Telephone number	Fax number		Cell number	
(905) 832250	(905)	8320286		
(60)/880000				
C. Design activities undertaken by.	udividualilde	ntined in Section B. 15	unding code rac	ile 3.3.2.1. U
Division CI				
☐ House	☐ HVAC	- House	☑ Building St	ructural
☐ Small Buildings	☐ Buildir	ng Services	☐ Plumbing	House
☐ Large Buildings		ion, Lighting and Power	☐ Plumbing —	All Buildings
	☐ Fire P		☐ On-site Sev	
☐ Complex Buildings  Description of designer's work ROYAL PIN	E HOMES - E	OREST SIDE - MODEL · LIN	T 2202 - T2 - FI	≅V A
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Building number, street name			Unit no.	Lot/con.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other de	scription	
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Name EDWIN C. FOL	_	Firm STRACE	IN ENGWEEL	NGINC-
Street address 69 GRAYOUN CHES.			Unit no.	Lot/con.
Municipality	Postal code	Province	E-mail	
Telephone number	Fax number		Cell number	
(905) 832-2256 3G: Design activities undertaken by:	(905) 8	32-0286	(Bijidina Qoda Tabi	3355 of
Division C				
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D. Declaration of Designer				
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C, of the Building Code. I am	qualified, and th	ne firm is registered, in th	e appropriate classes/ca	tegories.
individual BCIN: 23	3991		4	
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Basis for exemption from				
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The information contained in this s     I have submitted this application was				
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Date SPULIT, 20	17	Signature of Designer	14m	

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# NORDIC

STRUCTURES

COMPANY Apr. 25, 2017 08:48 **PROJECT** J6 2ND FLOOR NORDIC SIZER

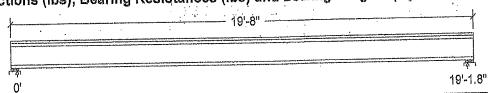
### Design Check Calculation Sheet

Nordic Sizer - Canada 6.4

### Loads:

ı	THE COUNTY I						· · · · · · · · · · · · · · · · · · ·		
1	Tood	Type	Distribution	Pat-	Location	[ft]	Magnitude		Unit
Ì	Load	1 1 1 1 0		tern	Start	End	Start	End	
ł							30.00		lpsf l
ı	Load1	Dead	Full Area						1 1
1		1	Full Area			7.4	40.00	. 1	psf
١	Load2	Live	Lurr Area	1 '	1		2.4		l Ila
ı		Dead	Full UDL				3.4		1777
1	Self-weight	Dead	12000	<u> </u>		******			·

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



	U		<del></del>
Unfactored: Dead Lilve:	320 383		320 383
Factored:	975		975
Total	9/3		
Bearing: Resistance Joist Support	2334 9901		2334 9901
Des ratio Joist Support Load case Length Min req'd Stiffener Kd	0.42 0.10 #2 4 1-3/4 No 1.00	E. FOK	0.42 0.10 #2 4 1-3/4 No 1.00
KB support fcp sup Kzcp sup			769 1.15

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 1/2" gypsum ceiling
This section PASSES the design code check.

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

Feel) Hill entries a man.	9			<del></del>	
Criterion	Analysis Value	· Design	Value	Unit	Analysis/Design
	$\frac{Vf}{Vf} = 975$	Vr =	2336	lbs	Vf/Vr = 0.42
Shear	VL = 973 Mf = 4666	Mr =	1.1609	lbs-ft	Mf/Mr = 0.40
Moment (+)	1 1	0.64 =	L/360	in	0.30
Perm. Defl'n		0.32 =	L/720	in	0.71
Live Defl'n	$0.23 = \langle L/999 \rangle$		L/240	in	0.43
Total Defl'n	0.41 = L/554	0.96 =			0.39
Bare Defl'n	0.25 = L/920	0.64 =	L/360	i,n	1
Vibration	lmax = 19'-2	Ľv ≔	20'~6	ft	0.05
Defl'n	= 0.028	=	0.033_	in	0.85
ll Derrin		. <del></del>			

DWB NO. TAM 8612-18 H P6/12
STRUCTURAL STRUCTURAL COMPONENT ONLY

#### NORDIC SIZER

#### Nordic Sizer - Canada 6.4

Page 2

NUKDIC SIZI	2/X		KD							·	
Additiona	l Data:										
FACTORS:	f/E	KD	KH	KZ	$\mathtt{KL}$	KT	KS	KN		•	
٧r	2336	1.00	1.00	***	***	-			#2		
Mr+	11609	1.00	1.00		1,000	-	-	_	#2		
EI	547,1 m	illion -		-		<b></b>			#2		
CRITICAL L	OAD COME	INATIONS:			•		. •				
Shear	: LC #2	= 1.251	D + 1.5	L	• ,•	* * 1	:-				
Moment(+	) : LC #2	= 1.251	D + :1.5	L , . ;							
Po . (7.)	TO 111	_ 1 00	150 mm	nnanti			29				
	LC #2	= 1.0D	+ 1.0L	(live	)						
• • I	LC #2	= 1.0D	+ 1.0L	(tota	1)						
	LC #2	= 1.0D	+ 1.0L	(bare	joist)						
Bearing	: Suppo	ort 1 - L	C #2 =	1.25D +	1.5L						
	Suppo	ort 2 - L	C #2 =	1.25D +	1.5L						
Load Typ	es: D≂dea	id W≔W.1.n	o S≕sn	ow н=e	artn, grou	maware	ו הייים אי	Lenguake			
• •	L≔liv	re (use, oc	cupancy	) Ls=l	ive(stora	age, equ	ipment/	T=:TT.A			
All Load	Combinat	ions (LC	s) are	listed	in the Ar	nalysis	output				
CALCULATI	IONS:	•									
Deflecti	on: Elei	Ef = 6	13e06 l	b-in2	K = 6.186	e06 lbs	13.2	ما المالية			
"Live" d	eflection	n = Defle	ction f	rom all	non-dead	z Loads	(TIAG)	willd, Bi	10W)		

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 QBC 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. based on the design criteria and loadings shown.

> STRUCTURAL COMPONENT ONLY

## NORDIC STRUCTURES

COMPANY Apr. 25, 2017 08:47

PROJECT J6 1ST FLOOR NORDIC SIZER

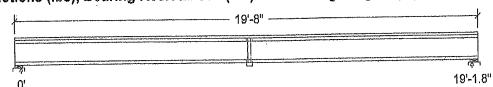
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 6.4

### Loads:

Load	Туре	Distribution	Pat- tern	Location Start	(ft) End	Magnitude Start End	
Loadl	Dead	Full Area				30.00	psf
Load2	Live	Full Area		!		40.00	psf
Self-wei		Full UDL			,	3.4	plf

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



	_		<del></del>
Unfactored: Dead Live	320 383		320 383
Factored:	975		975
Bearing:			
Resistance Joist Support	2334 9901	a de la companya de La companya de la companya de l	2334 9901
Des ratio Joist	0.42	La company of the second of th	0.42
Support	. 0.10	PROFESSIONA	0.10
Load case		La Kallada Pa	4
Length Min reg'd	1-3/4	E FOK	1-3/4
Stiffener	No	( E. FOK	1.00
Kd	1.,00		1.00
KB support			769
fcp sup	. 769		1.15
Kzcp sup	1.15		1

### 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:

militità a harman —	J		<del></del>	
Criterion	Analysis Value	Design Value	Unit	·Analysis/Design
Shear	Vf = 975	Vr = 2336	lbs	Vf/Vr = 0.42
Moment (+)	Mf = 4666	Mr = 11609	lbs-ft	Mf/Mr = 0.40
	$0.19 = \langle L/999$	0.64 = L/360	i.n	0.30
	$0.13 = \langle L/999 \rangle$	0.32 = L/720	in	0.71
	$0.23 - \frac{1}{10000000000000000000000000000000000$	0.96 = L/240	lin	0.43
Total Defl'n		0.64 = L/360	in	0.39
Bare Defl'n	401.0	Lv = 22'-11	ft	
Vibration	TIMON	= 0.033	in	0.67
l Defl'n	= 0.022	- v,033	1 11	

DWOND. TAM 8613-18H P6/2 STRUGTURAL COMPONENT ONLY

T-Lluzelo

### NORDIC SIZER

#### Nordic Sizer - Canada 6.4

Page 2

A statistics and	Phase.									
Additional				****	2.27	z/m	WC.	[AN]	LC#	
FACTORS:	f/E	KD	KH	KZ	КL	KT	KS	1714		
Vr	2336	1.00	1.00		•••	-				
Mr+	11609	1.00	1.00	- '	1.000	<b>-</b> .	<del>)</del>		#2	
Vr Mr+ EI	547.1 m	illion	<del></del>	·	· · -	-	,		#2	
I CRITICAL LO	DAD COMB	INATIONS	S:					•		•
Shear	; LC #2	= 1.25	5D + 1.51			$\rho = (1-\epsilon)^{-1}$	٠.			
Moment (+)	: LC #2	= 1.29	5D + 1.5	L				• •		
Deflection	on: LC #1	= 1.01	) (perma	enent)						
	LC #2	= 1.01	) + 1.0L	(live)						
· ·	LC #2	= 1.01	0 + 1.0L	(total	L)					
	LC #2	= 1.01	0 + 1.0L	(bare	joist)					
Bearing	: Suppo	rt 1 - J	LC #2 = :	1.25D +	1.5L			•		
	Suppo	rt 2 - 1	LC #2 = 1	1,25D +	1.5L .					
Load Type	as: D=dea	d W≔win	nd S≒sn	ow H=ea	arth, grou	ındwate:	r E=ear	thquake		
	L=liv	e(use,o	coupancy	) Ls≕l:	ive (stora	ige, equi	ipment)	f≃fire		
All Load	Combinat	ions (L	Cs) are	listed :	in the Ar	nalysis	output			
CALCULATI	ONS:									
Deflecti	on: Elef	f = 0	613e06 l	b-in2 1	K≕ 6.18∈	e06 lbs				
"Live" d	eflection	= Defl	ection f	rom all	non-dead	l loads	(live,	wind, s	now)	

- 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 sultability 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.

COMPONENT UNLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B1(i499)

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

April 25, 2017 08:26:27

BC CALC® Design Report

Bulld 5033

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customera

Code reports:

CCMC 12472-R

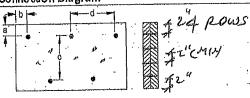
File Name: UNIT 2202 T2.mmdl

Description: Designs/Flush Beams/Basment/Flush Beams/B1(1499

Specifier:

Designer: Al Company:

Connection Diagram



a minimum = 2" b minimum = 3"

c = 7-7/8" 41

Calculated Side Load = 305.3 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:

Nails

3-1/2" ARDOX SPIRAL

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.

EC CALOR, 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.



DWB NO . TAN 8614-18 H STRUCTURAL COMPONENT ONLY

T-(84387(1)



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B1(i499)

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 2202 T2.mmdl

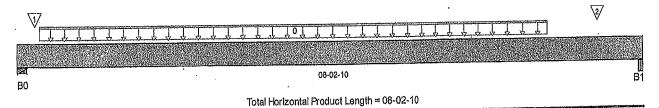
Description: Designs\Flush Beams\Basment\Flush Beams\B1(i499)

Specifier:

Designer: AJ

Company.

Misc:



Reaction Summary (Down	/ Uplift) (Ibs) Live	De ad	Snow	Wind				
BO, 5-1/2" B1, 5-1/4"	735/0 609/0	454/0 354/0			17 4 LD4 11 11 11 11 11			

	Sarana S	٠.	•	Live	Dead	Snow Wind	Trib.
Load Summary Tag Description	Load Type	Ref. Start	En d	1.00	0,65	1.00 1.15	
<u> </u>	Unf. Lin. (lb/ft)	L 00-03-08	06-11-08	152	76		n/a
0 Smoothed Load	Conc. Pt. (lbs)	1. 00-02-12			116		n/a
1 1(1180)	Conc. Pt. (lbs)	L 07-07-08	07-07-08	171	85		n/a
2 J2(l425)	. 00110/1 1/0007	W 41					

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,345 ft-lbs	38,727 ft-lbs	6.1%	1	03-07-08
End Shear	1,054 lbs	14,464 lbs	7.3%	1	01-05-06 <b>/</b> /
Total Load Defl.	L/999 (0.017")	n/a	n/a	4	01-05-06 04-01 <b>-08</b>
Live Load Defl.	L/999 (0.011")	n/a	n/a	5	04-01- <b>₽</b> 8‰
Max Defl.	0.017"	n/a	n/a	4	04-01-08
Span / Depth	7.5	n/a	n/a		00-00- <b>1</b> 02

			De man d/ Re sistance		
Bearing Supports	3 Dim (L x W)	Demand	Support	Member	Material
B0 Wall/Plate	5-1/2" x 3-1/2"	1,671 lbs	20.3%	7.1%	Unspecified
B1 Beam	5-1/4" x 3-1/2"	1,356 lbs	17.3%	6%	Unspecified

Notes

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

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

086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

DWG NO. TAM 8614-18 H STRUCTURAL COMPONENT ONLY

T-18/138)



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B2(1459)

BC CALC® Design Report



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

April 25, 2017 08:26:28

Bulld 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

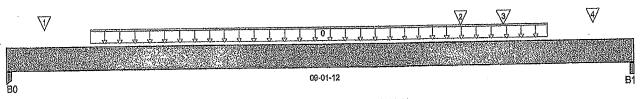
Description: Designs\Flush Beams\Basment\Flush Beams\B2(i459)

Specifier:

Designer: AJ

Company.

Misc:



Total Horizontal	Product	Length	= 09-01-12
------------------	---------	--------	------------

		The second secon	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Reaction Summary (Down /	Uplift) (lbs)		_	1811.4.41	
Be aring	Live	Dead	Snow	Wind	
B0, 1-3/4" B1, 5-1/4"	762/0 1,155/0	437/0 642/0	• •	9	

		•	Live	Dead	Snow Wind	Trib.
Load Summary Tag Description	Load Type	Ref. Start	End 1.00.	0.65	1.00 1.16	
0 Smoothed Load	Unf. Lln. (lb/ft)	L 01-02-10	07-10-10 150	75		n/a
1 J2((461)	Conc. Pt. (lbs)	L 00-06-10	00-06-10 153	77		'n/a
2 BB ((458)	Conc. Pt. (lbs)	L 06-07-04	06-07-04 431	226	,	n/a
3 J4(J488)	Conc. Pt. (lbs)	L 07-02-10	07-02-10 74	ح 37		n/a n/a
4 -	Conc. Pt. (lbs)	L 08-06-10	08-06-10 253	126)	and the	11/4

Controls Summary	Factore d Demand	Factored Resistance	Demand / Resistance	Load Case	Location PROFESSION 1
Pos. Moment	4,372 ft-lbs	38,727 ft-lbs	11.3%	1	07 08 10 E. FOK \$
End Shear	2,062 lbs	14,464 lbs	14.3%	1	
Total Load Defl.	L/999 (0.044")	n/a	n/a	4	
Live Load Defl.	L/999 (0.028")	n/a	n/a	5	04-08-10
Max Defl.	0.044"	n/a	n/a		04-03-18
Span / Depth	8.8	n/a	n/a		00-00

Bearing Supports	Dim , (L × W)	Do man d	De man d <i>l</i> Resistance Support	De mand/ Resistance Member	Material
BO Post B1 Beam	1-3/4" x 3-1/2"	1,689 lbs	42,4%	22,6%	Unspecified
	5-1/4" x 3-1/2"	2,535 lbs	32,3%	11.3%	Unspecified

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

DWOND TAN 8615-18 H STRUCTURAL ' COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B2(i459)

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

April 25, 2017 08:26:28

BC CALC® Design Report



Bulld 5033

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdi

Description: Designs\Flush Beams\Basment\Flush Beams\B2(1459

Specifier:

Designer: AJ Company:

Misc:

Disclosure

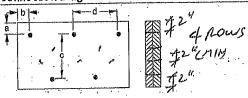
Completeness and accuracy of Input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance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

ALLJOIST®, BCRIM BOARD™, BCI®, BOISE GLULAMM, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRANDO, VERSA-STUDO are

BC CALO®, BC FRAMER®, AJS™,

trademarkorof Egless as cade Wood Producte Lstr. C.

Connection Diagram



a minimum = 2" b minimum = 3"

c = 7 - 7/8" 6 d = ØØ

Calculated Side Load = 306.2 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: "34 Nails

3-1/2" ARDOX SPIRAL

DWG NO , TAM 8615-18 14 STRUGTURAL PER COMPONENT ONLY

T-1811388(V)



## Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B3(i455)

BC CALC® Design Report



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

April 25, 2017 08:26:28

Bulld 5 033

Job Name: Addres s:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B3(i455)

Spedfler:

Designer: AJ Company:

Misc:

	<b>V</b>	
		, , , , , , , , , , , , , , , , , , , ,
	07-07-10	B1
B0		

			ACCOUNT OF THE PARTY OF THE PAR	P	
Reaction Summary (Down	/ Uplift) (lbs)	De ad	Snow	Wind	
B0, 3-1/2" B1, 4-3/8"	397/0 293/0	227/0 173/0			9 - 1 - 1 - 8

				Live	Dead	Snow Wind	irib.
Load Summary	Load Type	Ref. Start	En d	1.00	0.65	1.00 1.15	
Tag Description		L 00-00-00	02-09-14	14	7		n/a
<ol> <li>FC1 Floor Material</li> </ol>	Unf. Lin. (lb/ft)		07-07-10		13		n/a
1 FC1 Floor Material	Unf. Lin. (lb/ft)	L 02-09-14					n/a
2 B5/(456)	Conc. Pt. (lbs)	L 02-10-12	02-10-12	522	271		7,040

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
	2,192 ft-lbs	19,364 ft-lbs	11.3%	1	02-10-12
Pos. Moment	832 lbs	7.232 lbs	11.5%	1	01-03-06
End Shear Total Load Defl.	L/999 (0.024")	n/a	n/a	4	03-07-10
Live Load Defl.	L/999 (0.015")	n/a	n/a	5	03-06-06
Max Defl.	0,024"	n/a	n/a	4	.03-07-10
Span / Depth	7.2	. n/a	n/a		00-00-00

• • •				Demand/ Resistance	De mand/ Resistance Member	, i
ing Supports	Din	n.(L.xW)	Demand			-
	A 4	101 1 1 1 2 1A1	880 lhe	22.1%	11.8%	N

Beari BO Post 3-1*1*2" x 1-3*1*4' 20% 4-3/8" x 1-3/4" 656 lbs Wall/Plate

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 2012 086.

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

c. call 1-800-964-6999 before installation.

EC CALOB, BC FRAMER®, AJS™,

ALLOST®, BC RIMBOARD™, BC®, BOILE GLULAMIM, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM HUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are

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DWO NO. TAM 8666.18 14 STRUCTURAL COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B4(i457)

BC CALC® Design Report



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

April 25, 2017 08:26:28

**Build 5033** 

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

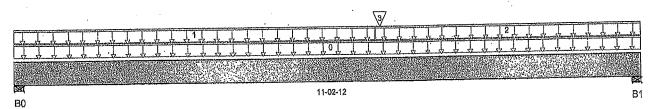
Description: Designs\Flush Beams\Basment\Flush Beams\B4(i457)

Specifier:

Designer: AJ

Company.

Misc:



Total Horizontal Product Length = 11-02-12

the best desired to the first of the second						
Reaction Summary (	Down / Uplift) (lbs)				•	
Bearing	Live	De ad	Snow	VVInd		
B0, 2-3/8"	306/0	224/0	••			
B1, 4-3/8"	464/0	30.7 / 0		•		
	\$ 15 A\$					W 1.

Load Summary	Load Type	Ref, Start	En d	Live 1.00	Dead 0.65	Snow Wind 1.00 1.1.5	Trib.
0 FC1 Floor Material 1 FC1 Floor Material 2 FC1 Floor Material 3 B5(1456)	Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Conc. Pt. (lbs)	L 00-00-00 L 00-00-00 L 06-05-00 L 06-05-14	11-02-12 06-05-00 11-02-12 06-05-14	6 29	5 3 15 255		n/a n/a n/a n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,711 ft-lbs	38,727 ft-lbs	9.6%	1	06-05-14
End Shear	949 lbs	14,464 lbs	6.6%	1	09-10-08
Total Load Defl.	L/999 (0.048")	n/a	n/a	4	05-09-02
Live Load Defi.	L/999 (0.029")	n/a	n/a	5	05-09-02
	0.048"	n/a	ņ/a.	4	05-09-02
Max Defl. Span / Depth	10.9	n/a	n/a		00-00-00 PROF
			De mand/	Domand/	18 KU

	•	· ·.	De man d/ Resistance	·Domand/ Resistance	188	FINFOK	ALE DA
Bearing Supports	Dlm. (L x W)	De man d	Support	Member	Material ឃុំ	T. PUN	
B0 Wall/Plate B1 Wall/Plate	2-3/8" x 3-1/2" 4-3/8" x 3-1/2"	739 lbs 1,080 lbs	20.8% 16.5%	7.3% 5.8%	Unspecifie Unspecifie		29
DI VICINI ISSUE				$A_{i} \leftarrow 1$	0	Mary Com come	.7

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

CONFORMS TO OBC 2012

BWG NO. TAM 8617-18 H
STRUCTURAL P618
COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B4(1457)

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

April 25, 2017 08:26:28

BC CALC® Design Report

**Bulld 5033** 

Job Name: Address:

City, Provinœ, Postal Code:BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

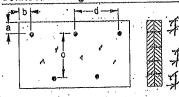
Description: Designs\Flush Beams\Basment\Flush Beams\B4(1457

Specifier:

Designer: Company.

Misc:

Connection Diagram



a minimum =  $2^{n}$  c = 7-7/8b minimum =3"

d = 🐠

Calculated Side Load = 93.8 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

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™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM FLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Bolse Cascade Wood . Products L.L.C.



DVONO.TAN 8617-18 H STRUCTURAL COMPONENT ONLY

- (- (S11390(1)



## Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B5(i456)

BC CALC® Design Report



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

April 25, 2017 08:26:29

**Bulld 5033** 

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

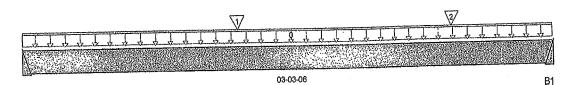
Description: Designs\Flush Beams\Basment\Flush Beams\B5(i456)

Specifier:

Designer: AJ

Company.

Misc:



80

Total Horizontal	Product	Length =	# 03-03 <sub>"</sub> 06
------------------	---------	----------	-------------------------

Concession provides to describe the commercial and report from a finite provide and was to disbelled		THE RESIDENCE OF THE PARTY OF T			
Reaction Summary (Down	/ Uplift) (lbs) Live	De ad	Snow	Wind	
B0 B1	489/0 523/0	254/0 272/0	e Program	The state of the s	

		•	Live	Dead	Snow Wind	Trib,
Load Summary Tag Description	Load Type	Ref. Start End	1.00	0.65	1.00 1.15	
0 User Load 1 J3(1486) 2 J3(1462)	Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs)	L 00-00-00 03-03-06 L 01-03-12 01-03-12 L 02-07-12 02-07-12	130	120 65 48	o Best Substitute of the	n/a n/a n/a

Cantuala Summary	Location
Controls Summary Pos. Moment End Shear Total Load Defl. Live Load Defl. Max Defl.	01-06-03 01-01-14 01-07-07 01-07-07 01-07-07 00-00-00
	. 01

			Demand/ Resistance	De mand/ Resistance		
Bearing Supports	Dim . (L x W)	De m an d	Support	Member	Material	
B0 Hanger B1 Hanger	2" x 1-3/4" 2" x 1-3/4"	1,052 lbs 1,125 lbs	n/a n/a	24.6% 26.4%	Hanger Hanger	٠,

#### 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 201 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 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 CALOD, BC FRAMER®, AJSTM, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE, GLULAMIN, SIMPLE FRAMING SALLAMB, VERSA-RIM

V**€₹3**A-STUD® are Capcade Wood

> OWO NO .TAM 86181814 STRUCTURAL COMPONENT ONLY



### Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B6(i458)

BC CALC® Design Report



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

April 25, 2017 08:26:29

**Bulld 5033** 

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

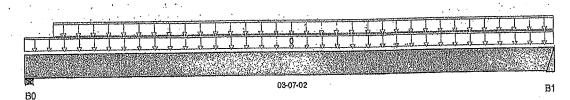
Description: Designs\Flush Beams\Basment\Flush Beams\B6(I458)

Specifier:

Designer: AJ

Company.

Misc:



Total Horizontal Product Length = 03-07-02

Reaction Summary (D	own / Uplift) (lbs) Live	De ad	Snow	Win	d				<del></del>
BO, 2-3/8" B1	413/0 452/0	217/0 237/0			·	•••	•	• • •	
Load Summary	Load Type	Ref. Star	t End	Live 1.00	Dead 0,65	Snow 1.00	Wind 1.16		Trib.
Tag Description  O FC1 Floor Material  1 User Load	Unf. Lin. (lb/ft) Unf. Lin. (lb/ft)	L 00-00 L 00-02		7-02 14 7-02 240	7 120		٠		n/a n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	. 768 ft-lbs	19,364 ft-lbs	4%	1	01-09-12
End Shear	342 lbs	7,232 lbs	4.7%	1	01-02-04
Total Load Defl.	L/999 (0.002")	n/a	n/a	4	01-09-12
Live Load Defl.	L/999 (0.001")	n/a	n/a	5	01-09-12
	0.002"	n/a	n/a	4	01-09-12
Max Defl. Span / Depth	3.4	n/a	n/a	•	00-00-00
		-			

				De man d/ Resistance	De mand/ Resistance	
Rearin	ng Supports	Dim. (L x W)	Demand	Support	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Material
B0	Wall/Plate	2-3/8" x 1-3/4"	890 lbs	50.1%	17.6%	Unspecified
B1	Hanger	2" x 1-3/4"	974 lbs	n/a	22.8%	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 2012

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 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 CALCO, BC FRAMER®, AJSTM, ALLJOIST® ∕BC RIM BOARD™, BCI®, BOISE GUÜLAM™, SIMPLE FRAMING

MO VERSA-RIM VERSA-RIMAN VERSA-STUD® are Wood.

> DWGNO.TAM 861918 H STRUCTURAL COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B7(i524)

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

April 25, 2017 08:26:29



BC CALC® Design Report

Build 5033 Job Name: Address:

City, Province, Postal Code; BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

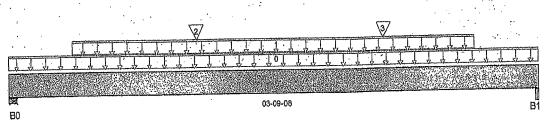
Description: Designs\Flush Beams\1st Floor\Flush Beams\B7(1524)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 03-09-08

			AND RESERVO	Charles of the Party of the Street	With the Real Property lies,			
Reaction Summary (Dow	/n / Uplift) (lbs) Live	PA 014	Snow	Wind		·	,	
B0, 5-1/2" B1, 5-1/4"	355/0 393/0	00010	139/0 137/0					
Load Summary	Land Tuna	Ref. Start	En d	Live	Dead 0.65	Snow 1.00	Wind 1.15	Trlb.
Tag Description  O FC2 Floor Material  1 User Load  2 J2(1264)  3 J2(1252)	Load Type Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs)	L 00-00-00 L 00-05-08 L 01-04-00 L 02-08-00	03-09-08 03-04-00 01-04-00	17 33 294	8 130 147 146	96		n/a n/a n/a n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	883 ft-lbs	38,727 ft-lbs	2.3%	1	01-09-08
End Shear	870 lbs	14,464 lbs	6%	1	02-04-06
Total Load Defl.	L/999 (0.001")	n/a	n/a	35	
Live Load Defl.	L/999 (0.001")	. n/a	n/a	. 51 35	
Max Defl.	0.001"	n/a	' n/a	. ათ	00-00-00
Span / Depth	3.1	n/a	n/a		00,00,00

	205 11 257)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
Bearing Supports	Dim. (L x W)			4.5%	Unspecified
BO Wall/Plate	5-1/2" x 3-1/2"	1,058 lbs	12.9%	• • • • •	
B1 Beam	5-1/4" x 3-1/2"	1,135 lbs	14.5%	5.1%	Unspecified

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

CONFORMS TO OBC 2012

Unbalanced snow loads determined from building geometry were used in selected product's

verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

DWOND. TAM 862010 H STRUCTURAL COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAW® 2.0 3100 SP 1st Floor\Flush Beams\B7(i524)

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

April 25, 2017 08:26:29

BC CALC® Design Report

Build 5033

Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

: CCMC 12472-R

File Name: UNIT 2202 T2,mmdl

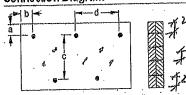
Description: Designs \Flush Beams\1st Floor\Flush Beams\87(1524)

Specifier:

Designer:

Company. Misc:

Connection Diagram



a minimum = 2"

c = 7-7/8" 6 d≓Ø b minimum ≠3"

Calculated Side Load = 328.4 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

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®, 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 Line SS'ON

> STRUCTURAL COMPONENT ONLY

T-181393(0



## Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B9(i515)

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

April 25, 2017 08:26:29

BC CALC® Design Report

Build 5033

Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B9(i515)

Specifier:

Designer: Al

Company:

Misc:

	₹ <del>\</del>	
3 <b>2</b>	19-09-06	
В0	13/05/00	B1

Total Horizontal	Product Length	ı = 19-09-06
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12 November 2 November 200 Avenue August 200 Avenue Avenu	THE RESIDENCE OF THE PARTY OF T	ar ministratura de del construcción de la construcción de la construcción de la construcción de la construcción		AND DESCRIPTION OF THE PERSON	
Reaction Summary (Down Bearing	/ Uplift) (lbs)	De ad	, Snow	Wind	
BO, 5-1/2"	1,290/35	832/0		•	·
B1,4-3/8"	833/16	598/0	•		·

 	1			Live	Dead	Snow	Wind	Trib.
Summary scription	Load Type	Ref. Start	End.	1,00	0.65	1.00	1.15	
 2 Floor Material	Unf. Lin. (lb/ft)	L 00-00-00	06-03-08	30	15			n/a
 2 Floor Material	Unf. Lin. (lb/ft)	L 06-03-08	19-09-06		21			n/a
 1(1511)	Conc. Pt. (lbs)	L 06-05-04	06-05-04	1,373	698			n/a
1(1511)	Conc. Pt. (lbs)	L 06-05-04	06-05-04	-51				n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	16.186 ft-lbs	60,415 ft-lbs	26.8%	1	06-05-04
End Shear	2,849 lbs	21,696 lbs	13.1%	, 1	01-05-06
Total Load Defl.	L/510 (0.449")	0,954"	47.1%	6	09-05-04
Live Load Defl.	L/836 (0.274")	0.636"	43,1%	8	09-03-02 09-05-043
Max Defl.	0.449!	n/a	n/a	6	
Span / Depth	19.3	n/a	n/a		00-00-00

Bearing Supports	Dlm, (L x W)	De man d	Resistance Support	Resistance Member	Material	N.
B0 Wall/Plate B1 Wall/Plate	5-1/2" x 5-1/4" 4-3/8" x 5-1/4"	2,975 lbs 1,996 lbs	24.1% 20.3%	8.4% 7.1%	Unspecified 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 O86.

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

ONG NO. TAM BEN-18H STRUCTURAL COMPONENT ONLY



## Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\Flush Beams\B9(I515)

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

April 25, 2017 08:26:29

BC CALC® Design Report



**Build 5033** Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

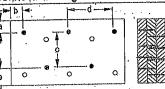
Description: Designs \Flush Beams\1st Floor\Flush Beams\B9(i515)

Specifier:

Designer: AJ Company.

Misc.

Connection Diagram



a minimum ≖#" b minimum = 3"

c = 6-7/8" d= 🐲

e minimum = 3!!!

Calculated Side Load = 144.4 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. Nailing schedule applies to both sides of the member. 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®, BC RIM 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.



DWG NO. TAM BEN-1814
STRUCTURAL PEN
COMPONENT ONLY



#### 1st Floor\...\B10(i503) Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

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

April 25, 2017 08:26:29

BC CALC® Design Report

Bulld 5 033 Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B10(i503)

Specifier:

Designer: AJ

Company.

Misc:

<u>₹</u>	
11-05-00 B0	B1

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Committee and Committee of the Committee			THE RESERVE THE PERSON NAMED IN COLUMN 2 IS NOT THE PERSON NAMED I	A TABLE OF STREET STREET, STRE	
Reaction Summary (Down	ı / Uplift) (Ibs) Live	De ad	Snow	Wind	
B0; 5-1/2"	786/86	446/0			
B1, 5-1/2"	. 1,033 / 114	565/0			

Load Summary Tag Description	Load Type	Ref. Start En	Live .	De ad 0.65	1.00 1.15	T FID.
0 FC2 Floor Material 1 FC2 Floor Material 2 B11(I511) 3 B11(I511)	Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs)	L 06-03-08 11 L 06-05-04 06	3-03-08 15 1-02-04 27 3-05-04 1,592 3-05-04 -200	8 13 760	· ·	n/a n/a n/a n/a

Controls Summary	Factore d Demand	Factored Resistance	Demand / Resistance	Load Case	Location	a september of the second
Pos. Moment	9,512 ft-lbs	38,727 ft-lbs	24.6%	1	06-05-04	
End Shear	2,165 lbs	14,464 lbs	15%	1	09-11-10	Y 90 Y
Total Load Defl.	L/999 (0.114")	n/a	n/a	6	05-11- <i>3</i> /4.	
Live Load Defl.	L/999 (0.075")	n/a	n/a	8	05-11/14	Mover S &
Max Defi.	0.114"	n/a	n/a	. 6	05-14-44	The state of the s
Span / Depth	10.7	n/a	n/a		00-00-60	E. AFOK S
		•	De mand/ Re sistance			
Bearing Supports	Dim.(LxW)	Demand	Support	Member	Material U	May or a
141 (187)	E 4 1011 2 4 1011	1797 lbc	21 1%	. 74%	Unspecified	and the second of the second

Wall/Plate 5-1/2" x 3-1/2" 1,737 lbs 9.6% Unspecified 27.4% 5-1/2" x 3-1/2" 2,256 lbs

#### 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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

. byg no . tam 8622=184 structural ры 4 component only



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B10(1503)

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

April 25, 2017 08:26:29

BC CALC® Design Report

\*

Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

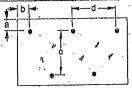
Description: Designs\Flush Beams\1stFloor\Flush Beams\B10(150(

Specifier:

Designer: /

Company.

Connection Diagram



Fred Rows

Calculated Side Load = 266.1 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

A

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 1-800-984-6999 before installation.

BC CALO®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM 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.

PHOFESSION

DWE NO. TAN 8622-18 H
STRUCTURAL
COMPONENT ONLY

T-1811395(1)



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B11(i511)

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

April 25, 2017 08:26:30

BC CALC® Design Report



Bulld 5 033 Job Name: Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

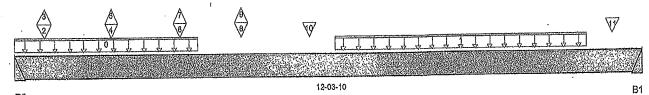
Description: Designs\Flush Beams\1st Floor\Flush Beams\B11(i511)

Specifier:

Designer: AJ

Company.

Misc:



B0

Total Horizontal Product Length = 12-03-10

		- National Association of the Company of the Compan	and the second s		
Reaction Summary (Down	/Uplift) (that				
Bearing	Live	Dead	\$n ow	Wind	
wo willing		H0110	·		The state of the s
B0	1,594 / 200	761/0			
	1.371 / 49	697/0			
B1 ·	1,3/1/40	09170			

					1	Live	Dead	Snow	Wind	Trib.
	ad Summary g Description	Load Type	Re	f. Start	End '	1.00	0.65	1.00	1.15	·
0	Us er Load	Unf. Lin. (lb/ft)	L	00-00-00	03-07-01	240	120			n/a
1	Smoothed Load	Unf. Lln. (lb/ft)	L	06-02-14	11-02-14	233	112			n/a
2	J1(259)	Conc. Pt. (lbs)	L	00-06-12	00-06-12	98	16			n/a
3	J1 (1259)	Conc. Pt. (lbs)	L	00-06-12	00-06-12	-65				n/a
4	J1(1257)	Conc. Pt. (lbs)	L	01-10-12	01-10-12	127	.31			. n/a
5	J1(1257)	Conc. Pt. (lbs)	L	01-10-12	01-10-12	-65				n/a
6	J1( 248)	Conc. Pt. (lbs)	L	03-02-12	03-02-12	120	30			n/a
7	J1 (1248)	Conc. Pt. (lbs)	Ĺ	03-02-12	03-02-12	-61		a partition of a		n/a
8	J1 (1249)	Conc. Pt. (lbs)	Ĺ	04-05-00	04-05-00	120	31	10		n/a
9	J1(1249)	Conc. Pt. (lbs)	Ē	04-05-00	04-05-00	-58		y¤ `.	•	n/a
•		Conc. Pt. (lbs)	- ī.	05-08-14	05-08-14	267	129 🚣	A STATE OF THE PARTY OF THE PAR	Single Control	n/a
10 11		Conc. Pt. (lbs)	Ĺ	11-08-14	11-08-14		82	OFESSIO	NAVE	n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location is	**
Pos. Moment	8,802 ft-lbs	38,727 ft-lbs	22.7%	1	06-08 1張	
End Shear	2,664 lbs	14,464 lbs	18.4%	. 1	11-01-12	
Total Load Defl.	L/860 (0;169")	0.605"	27.9%	6	06-02-34	ζ
Live Load Defl.	L/999 (0.112")		n/a	8	06-02-14	~
Max Defl.	0.169"	n/a	n/a	6	06-02-14	196
Span / Depth	12.2	. n/a	n/a		00-00-00	

Bearing Supports	Dlm. (L x W)	De man d	De man d <i>i</i> Re sistance Support	Demand/ Resistance Member	Material
B0 Hanger	2" x 3-1/2"	3,342 lbs	n/a	39.1%	Hanger
B1 Hanger	2" x 3-1/2"	2,929 lbs	n/a	34.3%	Hanger

Notes

DWG NO. TAM 8623-184 STRUCTURAL COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B11(i511)

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

April 25, 2017 08:26:30

BC CALC® Design Report

Bulld 5033 Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: UNIT 2202 T2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B11(i51\*

Specifier: Designer: AJ

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,

Resistance Factor phi has been applied to all presented results per CSA O86.

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

Design based on Dry Service Condition.

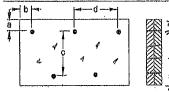
Importance Factor: Normal Part code: Part 9

#### 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 CONFORMS TO OBC 2012 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 GLULAMTM, SIMPLE FRAMING SYSTEMB, VERSA-LAMB, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Bolse Cascade Wood Products L.L.C.

**Connection Diagram** 



a minimum = 2" b minimum = 3"

c = 7-7/8" d = @

Calculated Side Load = 315.2 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: المردا Nails

3-1/2" ARDOX SPIRAL



DVG NO. TAN 8623-18 4 COMPONENT ONLY STRUCTURAL

T-1811896(2)





#### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

**PASSED** 

#### 1st Floor\Flush Beams\B12(i692)

BC CALC® Member Report

Build 6766

Dry | 1 span | No cant.

April 4, 2019 10:12:24

Job name:

Address:

City, Province, Postal Code: BRA...ON

File name: Description: 1st Floor\Flush Beams\B12(i692)

Specifier:

Designer: ΑJ

UNIT 2202 T2.mmdl

Customer: Code reports:

CCMC 12472-R

Company:

*	+	*	+	*		<u> </u>	+	+	*	•		<del>†</del>	+	<u>+</u>	+		. 2	+	+	+		<u>+</u>			<u>+</u>	ţ	,		Ŧ	Ŧ.	+	+	Ţ	_
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+	+	Ŧ	+	+	+	+	+	₩.	. +	1		Ŧ	Ŧ	1	1	1	. 0	<del>1</del>	ŧ	Ţ	¥.	+	Ţ	1	+	1	-	,	Ţ	1	Ţ	Ţ	Ţ	_
		<u>,                                    </u>						· 			·	·												· .										•
			•												•											•								
		-									_						7-04-1																	

Total Horizontal Product Length = 07-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	394 / 0	760 / 0	932 / 0	
B2, 5-1/2"	413 / 0	795 / 0	975 / 0	

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Lac.	1.00	0.65	1.00	1.15	-
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-04-00	Тор		12			00-00-00
1	ROOF	Unf. Lin. (lb/ft)	L	00-00-00	07-04-00	Тор	110	100	260		n\a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	07-04-00	Тор		100			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,994 ft-lbs	35,392 ft-lbs	11.3%	13	03-07-00
End Shear	1,635 lbs	14,464 lbs	11.3%	13	01-03-06
Total Load Deflection	L/999 (0.025")	nla	nla	45	03-07-00
Live Load Deflection	1/999 (0.015")	n <b>\</b> a	n\a	61	03-07-00
Max Defl.	0.025"	n <b>\</b> a	n\a	45	03-07-00
Span / Depth	6.8				

Bearing	supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	3-1/2" x 3-1/2"	2,544 lbs	38.9%	17.0%	Unspecified
B2 ·	Wall/Plate	5-1/2" x 3-1/2"	2,663 lbs	25.9%	11.3%	Unspecified

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 O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA 086.

Unbalanced snow loads determined from building geometry were used in selected product's

verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Member has no side loads.

Nail one ply to another with 3 ½" spiral nails @ 👂

\_o.c. staggered in 2 rows



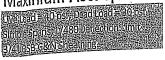


## Maximum Floor Spans









			Ва	are			1/2" Gy <sub>l</sub>	osum Ceiling	
	Series		On Centr	e Spacing			On Cen	tre Spacing	
Depth	בטווט ,	.12"	16"	19,2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14 <sup>1</sup> -2 <sup>11</sup>	13 <sup>r</sup> -4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16 <sup>1</sup> -1"	15'-1"	13'-11"
	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"	16'-5"	15'-5"	14'-3"
9-1/2"	NI-70	18'-0"	16'-11"	16'-3"	15'-6"	18'-5"	17'-3"	16'-7"	15'-6"
	141-70 08-11/1	18'-3"	17¹-1ª	16'-5"	15'-9"	18'-8"	17'-S"	16'-9"	15*-10"
	NI-20	17'-10"	16 <sup>1</sup> -10"	16'-0"	14'-10"	18'-6"	17'-1"	16'-0"	14-10"
	NI-40x	19'-4"	17'-11"	17'-3"	15'-10"	19'-11"	18'-6"	17'-9"	15'-10"
	NI-80	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-I"
11-7/8"	NI-50 NI-70	20'-9"	19'-2"	18 <sup>r</sup> -3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
22.7	MI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18°-0"
	NI-90x	21¹-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19-10"	18 <sup>r</sup> -11"	17°-5"	22'-1"	20'-6"	19'-6"	17 <sup>r</sup> -5"
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20°-10°	19"-11"	18°-10°
	NI-70	23'-0"	21'-3"	20'-3"	19-2"	23'-8"	21-11"	20°-10°	19 <sup>r</sup> .9"
14"	NI-80	23'-5"	21'-7"	20°-7"	19'-5"	24-0"	22*3"	. 21'-2"	20°-0"
	NI-90x	24'-1"	22¹-3"	21'-2"	20'-0"	24-8"	225£0°	21:9"	20'-7"
	NI-60	23'-9"	22:-0"	20'-11"	19'-10"	24-6"	22'-9"	21'-8"	20'-6"
	NI-70	25'-1"	23'-2"	22°-0"	20 <b>'-10"</b>	25*-9"	23'-10"	22¹-9¹¹	21'-5" -
16"	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"-	21'-10"
	NI-90x	26'-4"	24'-3"	23 <sup>r</sup> -1 <sup>tr</sup>	21'-10"	26'-11"	24-11"	23¹-8u	22'-5"

*		Mid-Span	Blocking		Mid-S	ipan Blocking ar	nd 1/2" Gypsun	r Ceiling
- 20ha2		On Centre	Spacing					
26ite2	12"	16"	19.2"			16" ·	19,2 <sup>11</sup>	24"
NI-20	15'-7"	14'-2"				14'-2"	13'-4"	12'-4"
	17'-9"	16'-1"	15'-1"				15'-1" ·	13'-11"
• •	18'-1"	16'-5"	15'-5"			16¹-5¹°	15'-5"	14'-3"
	19'-10"	17'-11"	16'-9"			17'-11"	16'-9"	15'-6"
	20'-2"	18'-3"	17'-1"			18'-3"	17'-1"	15'-10"
	18'-10"	17'-1"					16'-0"	14'-10"
	21'-3"	19'-3"					17'-9"	15'-10"
	21'-9"	19'-8"	18'-5"		1		18'-5"	17'-1"
•	23'-4"	21'-5"	20'-1"		1		20'-1"	18'-6"
	23'-7"	21'-10"					20'-5"	18'-11"
	24 <sup>1</sup> -3"	22'-6"					21'-3"	19'-7"
	24'-2"	21'-5"					19'-6"	17'-5"
-	24'-9"	22'-5"					21'-0"	19'-5"
	26'-1"	24'-3"					22'-9"	21'-0"
	26'-6"	24'-7"			1		23'-3"	21'-6"
•	27'-3"	25'-4"					24'-3"	22'-4"
	27'-3"	24¹-11"					23'-5"	21'-7"
• • • •	28'-8"	26'-8"					251-311	23'-4"
	29'-1"	27'-0"	25'-9"				25'-10"	23'-10"
•	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10"
	Series	12" Ni-20 15"-7" Ni-40x 17"-9" Ni-60 18'-1" Ni-70 19'-10" Ni-80 20'-2" Ni-20 81'-10" Ni-40x 21'-3" Ni-60 21'-9" Ni-70 23'-4" Ni-80 23'-7" Ni-90x 24'-3" Ni-40x 24'-2" Ni-60 24'-9" Ni-70 26'-1" Ni-80 26'-6" Ni-90x 27'-3" Ni-90x 27'-3" Ni-90x 27'-3" Ni-90x 27'-3" Ni-90x 27'-3" Ni-90x 27'-3" Ni-170 28'-8" Ni-80 29'-1"	Series         On Centro           12"         16"           NI-20         15'-7"         14'-2"           NI-40x         17'-9"         16'-1"           NI-60         18'-10"         17'-11"           NI-70         19'-10"         17'-11"           NI-80 · 20'-2"         18'-3"           NI-20         18'-10"         17'-11"           NI-40x         21'-3"         19'-3"           NI-60         21'-9"         19'-8"           NI-70         23'-4"         21'-5"           NI-80         23'-7"         21'-10"           NI-90x         24'-3"         22'-6"           NI-60         24'-9"         22'-5"           NI-60         24'-9"         22'-5"           NI-70         26'-6"         24'-7"           NI-90x         27'-3"         25'-4"           NI-90x         27'-3"         24'-11"           NI-70         28'-8"         26'-6"           NI-70         28'-8"         26'-6"           NI-70         28'-8"         26'-6"	12"   16"   19.2"	Series         On Centre Spacing           12"         16"         19.2"         24"           NI-20         15'-7"         14'-2"         13'-4"         12'-4"           NI-40x         17'-9"         16'-1"         15'-1"         13'-11"           NI-60         18'-1"         16'-5"         15'-5"         14'-3"           NI-70         19'-10"         17'-11"         16'-9"         15'-6"           NI-80         20'-2"         18'-3"         17'-1"         15'-10"           NI-80         20'-2"         18'-3"         17'-9"         15'-10"           NI-90         21'-3"         19'-3"         17'-9"         15'-10"           NI-60         21'-9"         19'-8"         18'-5"         17'-1"           NI-70         23'-4"         21'-5"         20'-1"         18'-6"           NI-80         23'-7"         21'-10"         20'-5"         18'-11"           NI-80         23'-7"         21'-5"         21'-3"         19'-7"           NI-90x         24'-9"         22'-5"         21'-0"         19'-6"         17'-5"           NI-90         26'-6"         24'-7"         23'-3"         21'-6"           NI-90x	Series   Do Centre Spacing   12"   16"   19.2"   24"   12"	Series   On Centre Spacing   On Centre Spacing   12"   16"   19.2"   24"   12"   16"   16"   19.2"   24"   15'-7"   14'-2"   14'-2"   13'-4"   12'-4"   15'-7"   14'-2"   14'-2"   14'-2"   14'-2"   15'-7"   14'-2"   14'-2"   16'-2"   16'-2"   16'-2"   16'-2"   16'-2"   16'-2"   16'-2"   16'-2"   16'-2"   16'-2"   16'-3"   16'-1"   16'-5"   14'-3"   18'-1"   16'-5"   16'-5"   19'-10"   17'-11"   16'-9"   15'-6"   19'-10"   17'-11"   16'-9"   15'-6"   19'-10"   17'-11"   16'-9"   15'-10"   20'-2"   18'-3"   17'-1"   15'-10"   20'-2"   18'-3"   17'-1"   18'-10"   17'-1"   18'-10"   17'-1"   18'-10"   17'-1"   18'-10"   17'-1"   18'-10"   17'-1"   19'-3"   17'-9"   15'-10"   21'-3"   19'-3"	Series

<sup>1.</sup> 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 crear spen application to simple open consideration for 150 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, 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 mased on the rectored loads of maler transit, the sea a live load deflection limit of L/480 and a total load deflection limit of L/240.

a live load deflection innic or 1/400 and a action load conceasion limit of 1/400 and 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 manifelded 1/2 inch guesting and/or one roughful the strange of the 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 of 24 mortes or reason the companies more may make a period 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 shart be minimum 1.44 men strap appared to interside of jois 3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

<sup>3.</sup> Minimum Dearing ranger shall be a 57 minimum Dearing ranger shall be a second 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.

<sup>4.</sup> Bearing stitteners are not required when it jobs and based and with other than uniformly distributed loads, an engineering analysis may be required 5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required

<sup>5.</sup> This span chart is based on unnorm roots. For opprecious with other trian unnormly distributed roots, 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 08C 2012.

6. Joints shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation of the continuously along the compression edge. Refer to technical documentation for installation and the continuously along the compression edge. Refer to technical documentation for installation of the continuously along the continuously along the continuously along the compression edge. Refer to technical documentation for installation of the continuously along the continuously along the continuously along the compression edge. Refer to technical documentation for installation of the continuously along the compression edge. Refer to technical documentation for installation of the continuously along the contin 6. Joists shall be laterally supported a coopposed to common shall be compression edge, never to technical documentation for guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PA-L274C.



### Maximum Floor Spans







MICIVITATION	
70 hefyDead Load	1515 DST 155
Liveroau 25 of 25	
Service State (1980) Detrect	Official
5/4 OSB GON Sheathlib	CHANGE THE PARTY
entergramment and the second	

55100100			Ba	are			1/2" Gy	osum <b>Cei</b> ling	
	Series	<del></del>	On Centr	e Spacing				tre Spacing	
Depth	Selles	12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	· 16'-4"	15 <sup>1</sup> 5"	14'-6"	13'-5"
	NI-20 NI-40x	17'-0"	16'-0"	15'-5" ·	14'-9"	17'-5"	16'5"	15'-10"	15'-2"
		17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	151-3"
9-1/2"	NI-60	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"
	NI-70	18'-3"	17'-1"	16'-5"	15¹-9"	18'-8"	17'5"	16'-9"	16'-1"
	NI-80	17'-10"	16'-10"	16 <sup>1</sup> -2 <sup>11</sup>	15¹-6¹¹	18'-6"	17'-4"	16'-9"	16'-1"
	NI-20	191-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-40x	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18 <sup>1</sup> .9"	17'-11"	17'-2"
44 m (O))	NI-60	20'-9"	19'-2"	18'-3"	17'-5"	21-4"	19 <sup>1</sup> -9 <sup>n</sup>	18'-10"	17'-10"
11-7/8"	NI-70	20-9 21'-1"	19'-5"	18'-6"	17¹-7¹¹	21'-7"	20'-0"	19'-0"	18'-20"
	NI-80		20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-90x	21'-8"	19"-10"	18'-11"	17'-11"	22'-1"	20'-6"	19'-7"	18 <sup>5</sup> -7 <sup>11</sup>
	NI-40x	21'-5"	20'-2"	19, 3,	18'-2"	22'-5"	20°-10"	19-11"	18'-10"
	N1-60	21'-10"	20-2 21-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	
14"	NI-70	23'-0"	21'-5" 21'-7"	20'-7"	19'-5"	24 <sup>r</sup> -0"	22'-3"	21-2"	19'-9"
	NI-80	23'-5"		21*-2"	20'-0"	24 <sup>t</sup> -8 <sup>u</sup>	22:-10"	21°-2"	205-05
	NI-90x	24'-1"	22 <sup>r</sup> -3 <sup>n</sup>	20-51"	19-10-	24°-6"	22'-9"	21-8"	20"-7"
	NI-60	23"-9"	22'-0"	20'-11	20*-10"	25'-9"	23'-10"	21-8" 22-9"	20°-6"
	NI-70	25-1"	23*-2"		20-10	26-1"	245-20		21'-6"
16"	NI-80	25'-6"	23'-6"	22'-4"	21'-20"	26'-11"	24-2" 24-11"	23'-1"	21'-10"
	NI-90x	26°-4"	24"-3"	23'-1"	Z1-30"	1 70-II	74-11	23'-8"	22'-5"

			Mid-Span	Blocking		·Mid-s	pan Blocking a	nd 1/2" Gypsum	Ceiling
	Series		On Centro	e Spacing		l		re Spacing	
Depth	Selies .	12"	16"	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"
	NI-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
9-1/2"	NI-70	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17¹-10¹¹	16'-7"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'5"	17'-5"	16'-2"
	NI-20 NI-40x	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"
		22'-1"	20'-7"	19'-7"	18 <sup>r</sup> -4"	22'-8"	20'-10"	19'-8"	18'-4"
11-7/8"	NI-60 NI-70	23'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"	21'-2"	19'-9"
77.11.	NI-80	23'-7"	21'-11"	20'-11"	19'-9"	24'-1" ·	22¹-6ª	21'-5"	20'-0"
	NI-90x	24'-3"	22'-6"	21'-6"	201-411	24'-8"	23'-0"	22'-0"	20'-9"
	NI-40x	241-511	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-60	24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	221-411	20'-10"
	NI-70	26'-1"	24'-3"	23'-2"	21'-10"	26¹-8"	24'-11"	23¹-9 <sup>n</sup>	22'-4"
14"	NI-80	26'-6"	24'-7"	23'-5"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	N1-90x	. 27'-3"	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"	24'-9"	231-1"
•	NI-70	28'-8"	26'-8"	25'-4"	23'-11"	29'-3"	27¹-4"	26'-1"	24'-8"
16"	NI-80	29'-1"	27¹-0ª	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
10	NI-90 X0e-IM	29'-11"	27'-10"	26'-6"	25'-0"	30'-6"	28'-5"	27'-2"	25'-8"

<sup>1.</sup> Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and deadload of 15 psf. The 1. Maximum crear span approache to sample span about 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, ununate introduction limit of L/480 and a total load deflection limit of L/240.

a live load denection minic or 4-300 times 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 manifelled 4/4 inch argument the spans of 1/4 inch argument 2. Spans are based on a composite floor may include 1/2 inch gypsum celling and/or one row of blocking at mid-span with strapping. spacing of 24 micross or ress. The composed many many many many many or one row or movement and standard with 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 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.

<sup>3.</sup> Minimum bearing length shall be 1-3/4 inches for the end bearings. 3. Minimum bearing lengui shall be a soft money for the Georgian State of the Spans and spacings given 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.

<sup>4.</sup> Bearing stitteners are not required when rejuise 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.

based on the use of the design properties. Posted are 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 snall the later any support to a complete and commentation for guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C, guidelines and construction details.











		Bare				1/2" Gypsum Ceiling				
Depth	Series	1		e Spacing		On Centre Spacing				
Dehai		12"	16"	19.2"	24"	12"	<b>16</b> 11	19.2"	24"	
	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A	
•	N1-40x	16'-1"	15'-2"	14'-8"	n/a	16'-7"	<b>35'-7"</b>	15 <sup>1</sup> -1 <sup>11</sup>	N/A	
9-1/2"	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A	
5-1/2	N1-70	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	17¹-8"	16'-7"	16'-0"	N/A	
	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16¹-0"	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.	
<b>11-7/</b> 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'-5"	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 <sup>t</sup> -4 <sup>n</sup>	18-6°	N/A	
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19-7"	18 <sup>r</sup> .9 <sup>rr</sup>	N/A	
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22:-3"	20'-7"	19 <sup>1</sup> .8 <sup>ii</sup>	N/A	
2.77	NI-80	21'-11"	20'-3"	19°4"	N/A	22-7"	20'-11"	20'-0"	N/A	
	NI-90x	22'-7"	20'-11"	19'-11"	N/A.	23 <sup>5</sup> -3 <sup>11</sup>	21'-6"	20'-6"	N/A	
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23 <sup>t</sup> .1 <sup>n</sup> -	21'-5"	20'-6"	N/A	
	NI-70	23'-6"	21-9"	20°-9"	N/A.	24'-3"	22-5"	21'-5"	N/A:	
<b>1</b> 6"	NI-80	23-11"	22'-1"	21-1"	N/A	24-8"	22'-10"	21-9"	N/A	
•	NI-90x	24:-8"	22'-9"	21 <sup>2</sup> -9"	N/A	25 <sup>1</sup> -4 <sup>n</sup>	23'-5"	22'-4"	N/A	

Depth		Mid-Span Blocking On Centre Spacing				Mid-Span Blockingsnd 1/2" Gypsum Ceiling On Centre Spacing				
	Series _									
Deben		12"	16"	19.2"	24"	12"	16"	19,2 <sup>ir</sup>	24"	
	:NI-20	15'-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	
9-1/2"	NI-60	18'-1" ·	16-4"	15'-4"	N/A	18'-1"	16'-4"	15°-4"	N/A	
3-1/2	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	181-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	16'-0"	N/A	
	NI-20 NI-40x	21'-0"	19'-3"	17'-9"	N/A	21'-3"	19'-3"	17'-9"	N/A	
	NI-60	21'-4"	19'-8"	18'-5"	N/A	211-8"	19¹-8"	18'-5"	N/A	
11-7/8"	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21-4"	20'-0"	N/A	
	NI-80	221-911	21'-1"	20'-1"	N/A	23'-3"	211-7"	20'-5"	N/A	
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A	
	NI-40x	23'-7"	211-5"	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	
	NI-70	25'-3"	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"	231-911	N/A	
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"	23'-4"	N/A	
	. NI-70	271-9"	25'-8"	24¹-6°	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	
		291-011	26'-10"	25'-7"	N/A	29'-7"	27¹-5"	26'-2"		
	NI-90x.	2.3-0 ,						20-2	N/A	

<sup>1.</sup> 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 1.501.+1.250. 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.

<sup>4.</sup> Bearing stiffeners are not required when 17,000 and 000 and of 000 and 000 appealing 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







		Bare On Centre Spacing				1/2" Gypsum Ceiling On Centre Spacing				
Depth	Series									
րերա		· 12"	<b>1</b> 6"	19.2"	24"	12"	16"	19.2"	24"	
	Ni-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14-8"	14'-2"	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	
2-1/2	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"	164-0"	N/A	
	NI-20	16'-11"	16'-0"	15'-S"	N/A	17'-6"	16'-6"	16'-0"	N/A	
	NJ-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17:6"	16'-1 <i>1</i> "	N/A	
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17-8"	17'-1"	N/A	
<u>11-7/8"</u>	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17 <sup>t</sup> -9"	N/A	
•	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10'"	17 <sup>-</sup> 11 <sup>n</sup>	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"	19'4"	18°-6"	N/A	
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'7"	18 <sup>-</sup> 9"	N/A	
14"	NI-70	21'-7"	205-9"	19'-1"	n/a	22 <sup>t</sup> -3 <sup>n</sup>	20'-7"	19°-8"	N/A	
7.4	NI-80	21-11"	20'-3"	19°-4"	N/A	22'-7"	20'-11'=	20°-0"	N/A	
	NI-90x	22t-7"	20'-11"	19°-11"	N/A.	23*-3"	21:6"	20*-6"	N/A	
	NI-60	22'-3"	20-8"	19'-9"	N/A	23-1"	21:5"	20'-6"	N/A	
	NI-70	235-61	21'-9"	20-9"	N/A	24*-3"	22'5"	21'-5"	N/A	
16"	N1-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22°10°	21'-9"	N/A	
	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'5"	22°-4"	N/A	

		Mid-Span Blocking				Mid-Span Blocking and 1/2" Gypsum Ceiling			
Depth	Series		On Centr	e Spacing	On Centre Spacing				
		12"	16"	19.2"	24 <sup>u</sup>	12"	16"	19.2"	24"
	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
9-1/2"	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	N/A
9-112	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"	181-5"	17'-8"	N/A
	NI-20	19'-6"	18'-1"	17'-3"	N/A	19'-11"	18'-3"	17 <sup>t</sup> -3 <sup>n</sup>	N/A
11-7/8"	NI-40x	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A
	NI-60	21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-6"	N/A
	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-11"	20'-11"	N/A	24'-3"	22'-7"	21'-7"	N/A
	NI-60	24'-0"	22'-3"	21'-3"	N/A	24'-8"	22'-11"	21'-11"	N/A
14 <sup>u</sup>	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-11"	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
16"	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	25'-3"	24'-2"	N/A
	NI-70	27'-9"	25'+8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
	NI-80	28'-2"	26'-1"	24'-10"	N/A .	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	25'-2"	N/A

<sup>1.</sup> 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 applicable to simple-span residential mon-consideration with a design live load of 40 psr and deadload of 15 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 1/240.

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 consideration.

<sup>2.</sup> Spans are based on a composite floor with great ranks at most of coop and amount mixings of 5/8 inch for a job 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 19-2 littles or less. The composite most may include a 2 mining and or one row of mouraing at midspan with s 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.

<sup>3.</sup> Minimum pearing rengul shall be 2.94 more to 3.45 more than 1.50 more than 2.54 more than 2.54 more than 2.55 more than 2.5 5. Inis Span Charles Based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and 08C 2012.

based on the use of the design properties. Tooks and pages on animosetic besign per Con Goods, who would, and DBC 2012.

6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation of the continuously along the c 6. JOISES STIGHT DE TRACET OF THE PROPERTY OF

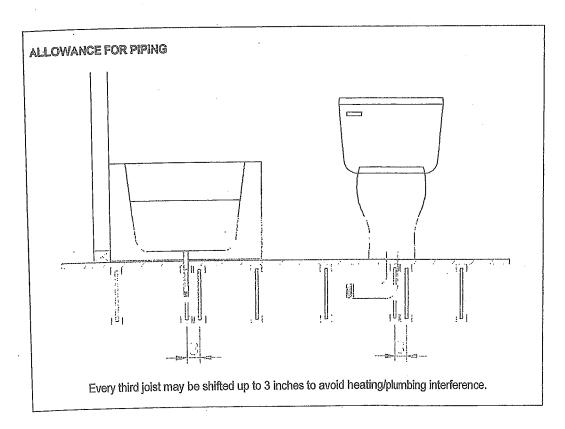


# Allowance for Piping (Installation Notes)

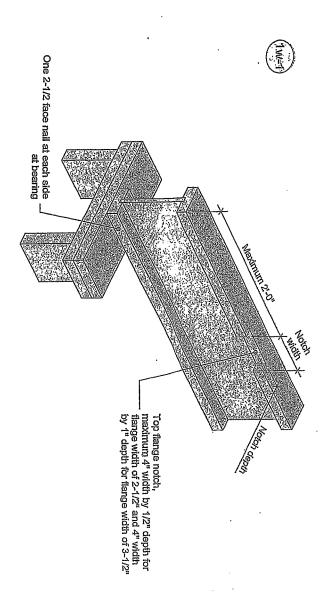
The floor layouts have usually not been checked for heating and/or plumbing interference. On-site adjustment of joists of up to 3 inches is permitted to avoid interferences. When moving a joist, the subfloor thickness shall be checked with code requirements when the joist spacing exceeds 19.2 inches. 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





Maximum 1/2" depth for flange width of 2-1/2" and 1" depth for flange width of 3-1/2"

- Notes:

  1. Blooking required at bearing for lateral support, not shown for clarity.

  1. Blooking required at bearing for lateral support, not shown for clarity.

  2. 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 5-1/2 inches, and 4-inch width by 1-inch depth for flange width of 5-1/2 inches.

  3. This detail applies to simple-span joist and multiple-span joists where the notch is located at the end half-span.

  4. For other applications, contact Nordic Structures.

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

All naits shown in the details are assumed to be common naits unless otherwise noted. Naits shall have a diameter not less than 0.128 inch for 2-1/2-inch naits, or 0.144 inch for 3-inch naits, individual components not shown to scale for darity, and inches the common naits unless otherwise noted. Naits shall have a diameter not less than 0.128 inch for 2-1/2-inch naits, or 0.144 inch for 3-inch naits, individual components not shown to scale for darity, and the common naits unless otherwise noted.

STRUCTURES

T 514-871-8526 I 866 817-3418

nordic.ca

mile Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

2018-04-10 1 W-1 NUMBER