

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	6
J1DJ	14-00-00	9 1/2" NI-40x	2	4
J2	12-00-00	9 1/2" NI-40x	1	2
J3	10-00-00	9 1/2" NI-40x	1	3
J4	8-00-00	9 1/2" NI-40x	1	3
J4DJ	8-00-00	9 1/2" NI-40x	2	4
J5	6-00-00	9 1/2" NI-40x	1	16
J6	4-00-00	9 1/2" NI-40x	1	4
J7	2-00-00	9 1/2" NI-40x	1	2
B4 /	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B7	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5 ′	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B6 /	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B8 /	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B3 ′	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
 B9 /	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
 B2 DR	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
 B10 ′	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
 B1 DR/	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3

	Connector Summary				
Qty	Manuf	Product			
2	H1	IUS2.56/9.5			
1	H3	HGUS410			
1	H4	HUC410			
2	H5	HUS1.81/10			
1	H5	HUS1.81/10			
2	H7	HU310-2			
7	H9	IUS2.56/9.5			
4	H9	IUS2.56/9.5			
4	H9	IUS2.56/9.5			
4	H9	IUS2.56/9.5			

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/ft² DEAD LOAD: 20.0 lb/ft² TILED AREAS: 20 lb/ft₂

SUBFLOOR: 5/8" GLUE AND NAIL

APPLICATION AS PER O.B.C. 9.30.6.



FROM PLAN DATED: FEB 2018

BUILDER:

ROYAL PINE HOMES

SITE:

FOREST SIDE

MODEL: UNIT 1804

CORNER ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: M D DESIGNER: AJ REVISION:

DATE: 11/6/2018

1st FLOOR

STANDARD

DATE UNB

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION. MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM

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

DWG# TAM 8399 THROUGH DWG# TAM 840778 HCLUSIVE DATED 11218

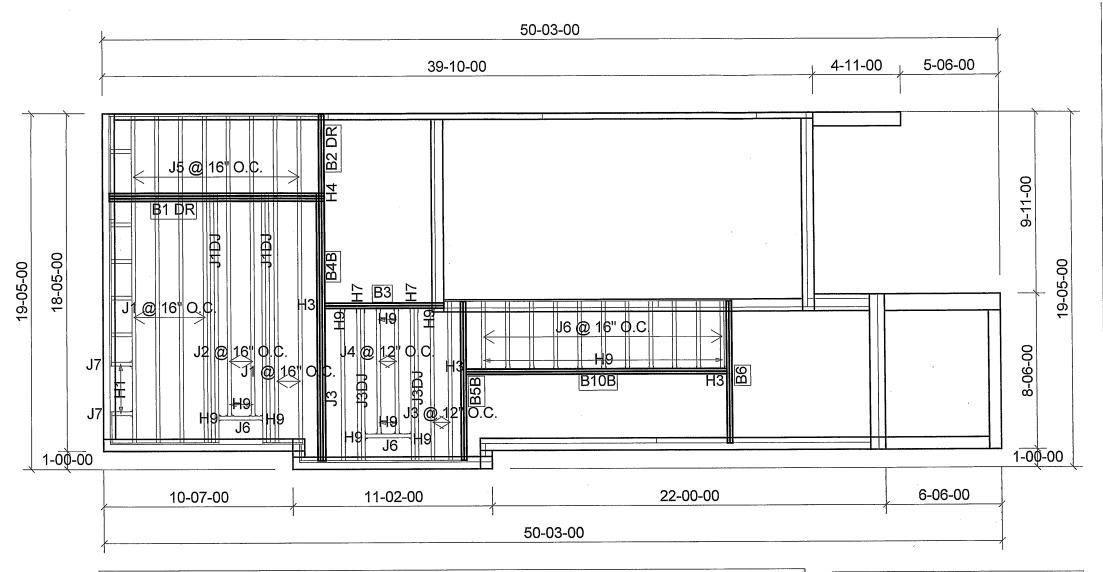
SEALED STRUCTURAL COMPONENTS ONLY: #8423-18H
SEALED, THIRD PARTY LVI. TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED
LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PEF
PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTIED
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 X 2 K 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.



		1 1000013		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	6
J1DJ	14-00-00	9 1/2" NI-40x	2	4
J2	12-00-00	9 1/2" NI-40x	1	2
J3	10-00-00	9 1/2" NI-40x	1	3
J3DJ	10-00-00	9 1/2" NI-40x	2	4
J4	8-00-00	9 1/2" NI-40x	1	2
J5	6-00-00	9 1/2" NI-40x	1	8
J6	4-00-00	9 1/2" NI-40x	1	13
J7	2-00-00	9 1/2" NI-40x	1	2
B10B /	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B4B /	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B5B /	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B3 /	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B6 /	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B2 DR	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B1 DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3

Products

Connector Summary				
Qty	Manuf	Product		
2	H1	IUS2.56/9.5		
2	H3	HGUS410		
1	H3	HGUS410		
1	H4	HUC410		
2	H7	HU310-2		
15	H9	IUS2.56/9.5		
4	H9	IUS2.56/9.5		
4	H9	IUS2.56/9.5		

NOTES:

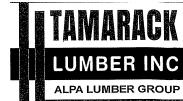
REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS REQ'D** UNDER CONCENTRATED LOADS SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST 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/ft² DEAD LOAD: 20.0 lb/ft2 TILED AREAS: 20 lb/ft2

APPLICATION AS PER O.B.C. 9.30.6.

SUBFLOOR: 5/8" GLUE AND NAIL



FROM PLAN DATED:

FEB 2018

BUILDER:

ROYAL PINE HOMES

SITE:

FOREST SIDE MODEL: UNIT 1804

CORNER **ELEVATION: B**

LOT:

CITY: BRAMPTON

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

DATE: 11/6/2018

1st FLOOR

STANDARD

DATE 1/12/8

BCIN: 26064; FIRM: 29991

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

ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 9429 THROUGH DWG# TAM 643 1-164 + 6455 1-64

DWG# TAM 6429 THROUGH DWG# TAM 643 1-645 1-655

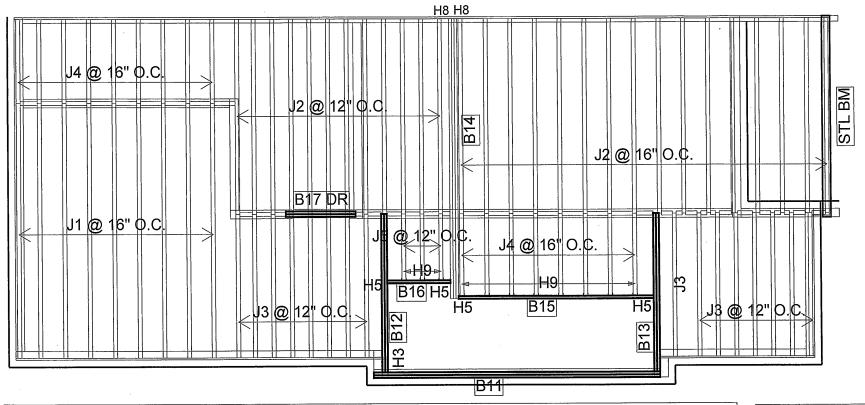
SEALED STRUCTURAL COMPONENTS ONLY: † 8399-18H+8400-18H+8402-18H SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY: 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS REF PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTIED 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 1/16D 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

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES.INC.

26064 BCIN: SEALED STRUCTURAL



Products				
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	9
J2	12-00-00	9 1/2" NI-40x	1	28
J3	8-00-00	9 1/2" NI-40x	1	16
J4	6-00-00	9 1/2" NI-40x	1	17
J5	4-00-00	9 1/2" NI-40x	1	3
B11/	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14 /	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B15/	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B12	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B13 /	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B16 /	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B17 DR/	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

C	Connector Summary				
Qty	Manuf	Product			
1	H3	HGUS410			
2	H5	HUS1.81/10			
2	H5	HUS1.81/10			
11	H9	IUS2.56/9.5			

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

LOADING:

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

SUBFLOOR: 5/8" GLUE AND NAIL

LUMBER INC ALPA LUMBER GROUP

FROM PLAN DATED: FEB 2018

BUILDER:

ROYAL PINE HOMES

SITE:

FOREST SIDE

MODEL: UNIT 1804

CORNER **ELEVATION: A**

LOT:

CITY: BRAMPTON

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

DATE: 11/6/2018

2nd FLOOR

DATE 11148

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION. MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.

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

DWG# TAMBYOS THROUGH DWG# TAMBY 1 418 H, INCLUSIVE DATED

SEALED STRUCTURAL COMPONENTS ONLY:

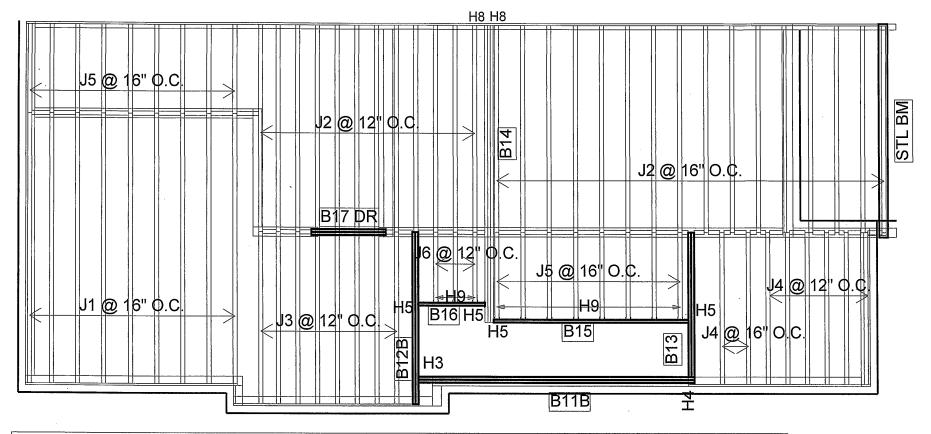
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY, 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION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

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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

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM BCIN: FIRM: 29991 SEALED STRUCTURAL



	·	Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	9
J2	12-00-00	9 1/2" NI-40x	1	28
J3	10-00-00	9 1/2" NI-40x	1	8
J4	8-00-00	9 1/2" NI-40x	1	8
J5	6-00-00	9 1/2" NI-40x	1	17
J6	4-00-00	9 1/2" NI-40x	1	3
B11B	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14 /	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	3	3
B15/	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B12B /	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B13 /	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B16 /	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B17 DR /	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

	Connector Summary			
	Qty	Manuf	Product	
:	1	H3	HGUS410	
	1	H4	HUC410	
	2	H5	HUS1.81/10	
	2	H5	HUS1.81/10	
	11	H9	IUS2.56/9.5	

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

LOADING:

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

SUBFLOOR: 5/8" GLUE AND NAIL



FROM PLAN DATED: FEB 2018

BUILDER:

ROYAL PINE HOMES

SITE:

FOREST SIDE

MODEL: UNIT 1804

CORNER **ELEVATION: B**

LOT:

CITY: BRAMPTON

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

DATE: 11/6/2018

2nd FLOOR

DATE 1/12/8

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER, ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION. MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM

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DWG# TAM 8427 THROUGH DWG# TAM 842818 HICLUSIVE DATED WY 6

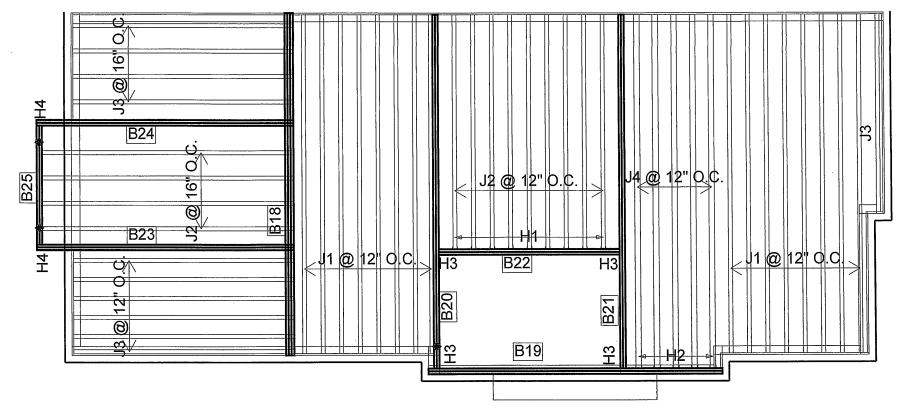
SEALED STRUCTURAL COMPONENTS ONLY; +B 40816H + B41176H + B41218H + B4186, SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-1 JOIST ONLY; 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS, WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED LOIST EXCEPTING A REACTION. JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
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REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC

DWG # TAM 26064 29991 SEALED STRUCTURAL COMPONENTS ONLY



	Products				
PlotID	Length	Product	Plies	Net Qty	
J1	18-00-00	11 7/8" NI-40x	1	16	
J2	14-00-00	11 7/8" NI-40x	1	13	
J3	12-00-00	11 7/8" NI-40x	1	11	
J4	20-00-00	11 7/8" NI-80	1	5	
B20/	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B21 ′	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B18 (18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	
B19~	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B23 <	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B24 /	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B22	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B25 /	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	

	Connector Summary				
	Qty	Manuf	Product		
Ì	9	H1	IUS2.56/11.88		
	5	H2	IUS3.56/11.88		
	4	H3	HGUS410		
	2	H4	HUC410		

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

LOADING:

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

SUBFLOOR: 5/8" GLUE AND NAIL



FROM PLAN DATED: FEB 2018

BUILDER:

ROYAL PINE HOMES

SITE:

FOREST SIDE

MODEL: UNIT 1804 CORNER

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: M D DESIGNER: AJ REVISION:

DATE: 11/6/2018

3rd FLOOR

DATE_UNUB

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 LAS PER PLAN WORKE 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.

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DWG# TAM 84187 THROUGH DWG# TAM 84234 SINCLUSIVE DATED 111218

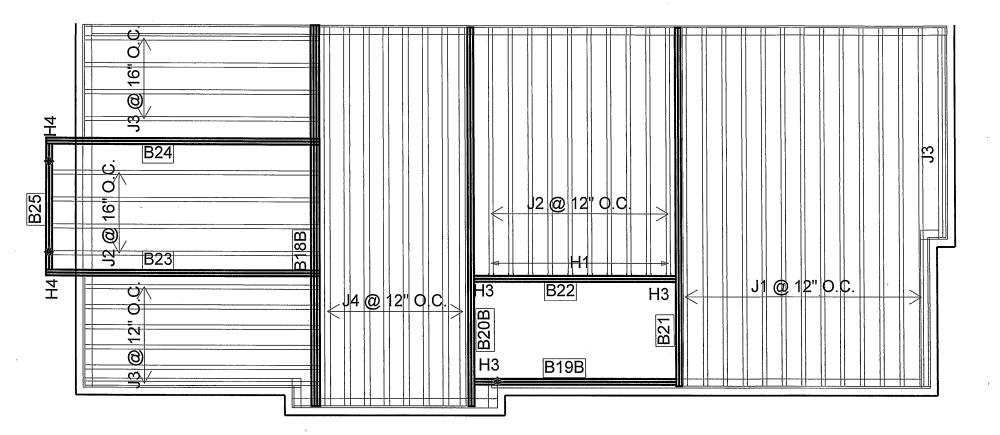
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REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM BCIN: 26064 FIRM: 29991 SEALED STRUCTURAL COMPONENTS ONLY



	Products				
PlotID	Length	Product	Plies	Net Qty	
J1	18-00-00	11 7/8" NI-40x	1	13	
J2	14-00-00	11 7/8" NI-40x	1	14	
J3	12-00-00	11 7/8" NI-40x	1	11	
J4	20-00-00	11 7/8" NI-80	. 1	8	
B20B /	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B18B	20-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	
B21/	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
B23 /	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	
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Connector Summary				
Qty	Manuf	Product		
10	H1	IUS2.56/11.88		
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2	H4	HUC410		

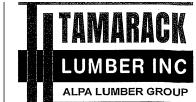
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LOADING:

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

APPLICATION AS PER O.B.C. 9.30.6.

SUBFLOOR: 5/8" GLUE AND NAIL



FROM PLAN DATED: FEB 2018

BUILDER:

ROYAL PINE HOMES

SITE:

FOREST SIDE

MODEL: UNIT 1804

CORNER **ELEVATION: B**

LOT:

CITY: BRAMPTON

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

DATE: 11/6/2018

3rd FLOOR

DATE 111218

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 COMFIRMED 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

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BY THROUGH DWG# TAM BY THRO

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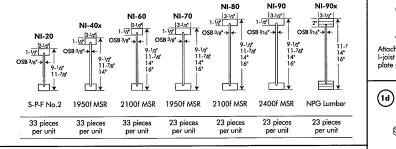
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REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

3105578 26064 29991 SEALED STRUCTURAL COMPONENTS ONLY







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
- 2. 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.
 4. The maximum size hole or the maximum depth of a duct chase opening that
- can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

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

- 5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
- 6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole of 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.
- 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
- 8. 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 manner in accordance with the restrictions listed above and as 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

			N	linimun	n Distar	nce fro	m Insid	e Face	of Any	Suppor	to Ce	ntre of	Hole (ft	- in.)		
Joist Depth	Joist Series						Rou	nd Hol	e Diame	eter (in.)					
Depin	Series	2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12	12-3/4
	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"									
	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6'-0"	6'-4"					'				
9-1/2"	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"									
	NI-70	2'-0"	3'-4"	4'-9"	6'-3"	8'-0"	8'-4"									
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"									
	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"						
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"						
	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"						
11-7/8"	NI-70	1'-3"	2'-6"	4'-0"	5'-4"	6'-9"	7'-2"	8'-4"	10'-0"	11'-2"						
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"							
	NI-90	0'-7"	0'-8"	1'-5"	3'-2"	4'-10"		6'-9"	8'-9"	10'-2"						
	NI-90x	0'-7"	0'-8"	0'-9"	2'-5"	4'-4"	4'-9"	6'-3"								
	NI-40x	0'-7"	0'-8"	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"			
	NI-60	0'-7"	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"			
14"	NI-70	0'-8"	1'-10"	3'-0"	4'-5"	5'-10"		7'-3"	8'-9"	9'-9"	10'-4"		13'-5"			
	NI-80	0'-10"	2'-0"	3'-4"	4'-9"	6'-2"	6'-5"	7'-6"	9'-0"	10'-0"	10'-8"		13'-9"			
	NI-90	0'-7"	0'-8"	0'-10"	2'-5"	4'-0"	4'-5"	5'-9"	7'-5"	8'-8"	9'-4"	11'-4"	12'-11"			
	NI-90x	0'-7"	0'-8"	0'-8"	2'-0"	3'-9"	4'-2"	5'-5"	7'-3"	8'-5"	9'-2"					
	NI-60	0'-7"	0'-8"	0'-8"	1'-6"	2'-10"		4'-2"	5'-6"	6'-4"	7'-0"	8'-5"	9'-8"	10'-2"		13'-9"
	NI-70	0'-7"	1'-0"	2'-3"	3'-6"	4'-10"		6'-3"	7'-8"	8'-6"	9'-2"	10'-8"			14'-0"	15'-6"
16"	NI-80	0'-7"	1'-3"	2-6"	3'-10"	5'-3"	5'-6"	6'-6"	8'-0"	9'-0"	9'-5"	11'-0"	12'-3"		14'-5"	16'-0"
	NI-90	0'-7"	0'-8"	0'-8"	1'-9"	3'-3"	3'-8"	4'-9"	6'-5"	7'-5"	8'-0"	9'-10"	11'-3"		13'-9"	15'-4"
	NI-90x	0'-7"	0'-8"	0'-9"	2'-0"	3'-6"	4'-0"	5'-0"	6'-9"	7'-9"	8'-4"	10'-2"	11'-6"	12'-0"		

- I. Above table may be used for I-joist spacing of 24 inches on centre or less nce is measured from inside face of supports to centre of hole.

- The location distance is measured from inside race or supports to centre of from.

 Distances in this chart are based on uniformly loaded joists.

 The above table is based on the 1-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

		Minim	ım distan	ce from in	side face	of suppo	orts to ce	entre of o	opening (ff - 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"
	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"
1.41	NI-70	8'-7"	9'-1"	9'-5"	9'-10"	10'-4"	10'-8"	11'-2"	11'-7"	12'-3"
14"	NI-80	9'-0"	9'-3"	9'-9"	10'-1"	10'-7"	11'-1"	11'-6"	12'-1"	12'-6"
	NI-90	9'-2"	9'-8"	10'-0"	10'-6"	10'-11"		11'-9"	12'-4"	12'-11"
	NI-90x	9'-4"	9'-9"	10'-3"	10'-7"	11'-1"	11'-7"	12'-1"	12'-7"	13'-2"
	NI-60	10'-3"	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	14'-1"	14'-10"
	NI-70	10'-1"	10'-5"	11'-0"	11'-4"	11'-10'	12'-3"	12'-8"	13'-3"	14'-0"
16"	NI-80	10'-4"	10'-9"	11'-3"	11'-9"	12'-1"	12'-7"	13'-1"	13'-8"	14'-4"
	NI-90	10'-9"	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14'-2"	14'-10"
	NI-90x	11'-1"	11'-5"	11'-10"	12'-4"	12'-10'	' 13'-2"	13'-9"	14'-4"	15'-2"

- The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

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 distribute. Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480.

block - Offset nails from

Flange Width

2-1/2"

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

FILLER BLOCK REQUIREMENTS FOR DOUBLE 1-JOIST

or Rim Joist

NI Joists

NI or rim board blocking

squash blocks

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

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

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

(1m)

– Filler

Maximum support

capacity = 1,620 lbs.

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

vood 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.

Material Thickness Required*

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

panel per detail 1a

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

- 2x plate flush with inside face of wall

or beam, 1/8" overhang allowed

NOTE: Unless hanger

sides laterally support

the top flange, bearing

stiffeners shall be used

installed per manufacturer's

Top-mount hanger

recommendations

Vertical Load* (plf)

Maximum Factored Vertical Load per Pair

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

8.500

5,500

One 2-1/2" -

(1e)

face nail at each side at bearing

3.300

*The uniform vertical load is limited to a joist depth of 16 nches or less and is based on standard term load duration

It shall not be used in the design of a bending member, such

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

shear transfer, nail to bearing plate with same nailing as required for decking)

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

Provide lateral bracing per detail 1a or 1b

Minimum Depth*

5-1/2"

7-1/4"

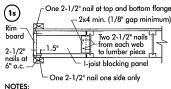
Pair of Sauash

- Support back of I-joist web during nailing to prevent damage to web/flange connection.

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

 3. Filler block is required between joists for full length
- 4. Nail joists together with two rows of 3" nails at 12 inches a c. (clinched when possible) on each side of the doubl I-joist. Total of four nails per foot required. If nails can
- clinched, only two nails per foot are required. The maximum factored load that may be applied to or side of the double joist using this detail is 860 lbf/ft. Verify double I-joist capacity.

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



imum Factored Unifor Vertical Load* (plf)

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

header, or rafter. For concentrated vertical load transfer, see detail 1d.

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.

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

(1)

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

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

2-1/2" nails

o top plate

Double I-joist header

NOTE: Unless hanger

sides laterally support

(both sides for face

Do not bevel-cut

ioist beyond

-Attach I-ioist

per detail 1 b

of wall

NOTE: Blocking required at

shown for clarity.

the top flange, bearing

at 6" o.c.

bearing belo

blocks per

area of blacks

below to post

recommendations. Verify double I-joist capacity to suppor

detail 1d.

Top- or face-mount

Filler block

Multiple I-joist header with full depth filler

Backer block attached nei

nails, clinch when possible

Install hanger per

manufacturer's

block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist

concentrated loads.

standard term load duration. It shall not be used in the design of a bending member, such as joist,

Load bearing wall above shall align vertically

with the bearing below. Other conditions, such

Blocking required over all interior supports under

load-bearing walls or when floor joists are not

Structural Composite Lumber (SCL)

recommendations.

For nailing schedules for multiple

beams, see the manufacturer's

installed per manufacturer's

mber 2x4 min., extend block to face

of adjacent web. Two 2-1/2" spiral nails from each web to lumber piece, alternate

OPTIONAL: Minimum 1x4 inch strap

ceiling attached to underside of joists.

applied to underside of joist at blocking line or 1/2 inch minimum gypsum

continuous over support

Nordic Lam or

NOTE: Unless hanger sides laterally support the top flange,

on opposite side.

NI blocking panel per detail 1a

as offset bearing walls, are not covered by

1-1/8" Rim Board Plus

NOTES: In some local codes, blocking is prescriptively require in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code

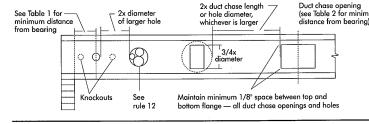
ments for spacing of the blocking. All nails are common spiral in this detail

END REARING

Gap

the above details are assumed to be noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) ı wire nails Spruce-Pine-Fir No. 2 or better. Individ ts not sh

FIELD-CUT HOLE LOCATOR





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

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

Holes in webs should be cut with a sharp saw

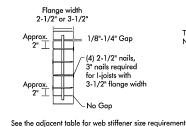
For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another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

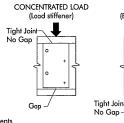
WEB STIFFENERS

RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found of the I-joist Construction Guide (C101). The gap between the stiffener and the flange is at
- A bearing stiffener is required when the 1-joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the top flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the case of a cantilever, anywhere between the cantilever tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

WEB STIFFENER INSTALLATION DETAILS





stiffener)	STIFFENER SIZE REQUIREM						
	Flange Width	Web Stiffener S Each Side of V					
+	2-1/2"	1" x 2-5/16 minimum wic					
+	3-1/2"	1-1/2" x 2-5/ minimum wic					

SAFETY AND CONSTRUCTION PRECAUTIONS





Never stack building materials over unsheathed I-joists. Once WARNING: I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

- Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends.
 When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
- 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 rollove or buckling.
- or buckling.

 Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each 1-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two 1-joists.
- Or, 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 cartilevered Lioists, 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 materials over beams or walls only.
- 5. Never install a damaged I-joist.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic L-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents.

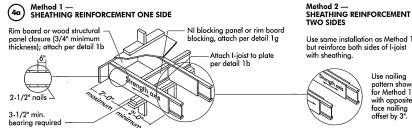


PRODUCT WARRANTY

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, hen 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

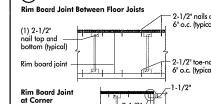


NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail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

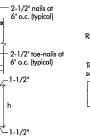
RIM BOARD INSTALLATION DETAILS

(8a) ATTACHMENT DETAILS WHERE RIM BOARDS ABUT

Tight Joint /



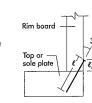
2-1/2"





8b TOE-NAIL

CONNECTION



A. Project Information	wo and takes te	Application	Contained the contract of the	ino project.
Building number, street name	and the second section of the second section s	- Company - Comp	Unit no.	Lot/con.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other de	scription	
B. Individual who reviews and take	e responsibil	ity for design activitie	38	
Name	a responsion	Firm		
SAM KATSOULAKOS		The state of the s	NGINEERING SERVIC	
Street address R.R #1, PO BOX 61			Unit no.	Lot/con.
Municipality GLENCOE	Postal code N0L 1M0	Province ONTARIO	E-mail	
Telephone number	Fax number		Cell number	
(519) 287-2242 Business G: Design activities undertaken by	(519) 287-575		 Building Code Tal	nle 3 5 2 1 of
Division C	muividuai ide	minea in Section B.	[Building Code 141	JIE 9.3.2.1. 01
☐ House	☐ HVAC	– House	⊠ Building St	tructural
☐ Small Buildings	☐ Buildin		☐ Plumbing –	
☐ Large Buildings		ion, Lighting and Power	☐ Plumbing –	
☐ Complex Buildings Description of designer's work ROYAL PIN	☐ Fire Pr			wage Systems
1ST FLOOR - STANDARD (SCHEDULE IS	S NOT ISSUED	AS LOT SPECIFIC)	UNII 1004 - ELEV. A	
REVIEW PRE-ENGINEERED FLOOR SYS	TEM COMPON	IENT DRAWINGS AND L	AYOUT PLACEMENT	PLAN SUPPLIED BY
TAMARACK ROOF TRUSSES INC. (SEE D	DWG #TAM310	50-18 DATED 11-12-18).		
SUPPORTING STRUCTURE TO BE REVI	EWED AND VEI	RIFED BY QUALIFIED B	UILDING DESIGNER.	purtuin tradicio es es territorios proportios de la Ario Silvino de l'
D. Declaration of Designer				
I, <u>SAM KATSC</u>	OULAKOS de	eclare that (choose one a	s appropriate):	
(print nam	e)			
☑ I review and take responsibili				
C, of the Building Code. I am	qualified, and th	ne firm is registered, in th	e appropriate classes/	categories.
Individual BCIN: <u>2606</u>	64			
Firm BCIN: <u>2999</u>	91			
☐ I review and take responsibilit	y for the design	and am qualified in the	appropriate category as	s an "other designer"
under subsection 3.2.5.of Divi	ision C, of the B	uilding Code.		
Individual BCIN:				
Basis for exemption from	registration:			
☐ The design work is exempt from		on and qualification requ	irements of the Buildin	g Code.
Basis for exemption from				
I certify that:				
The information contained in this s	chedule is true	to the best of my knowle	dge.	
2. I have submitted this application w	rith the knowled	ge and consent of the fire	n.	
Date	11227	Signature of Designer	1	

NOTE:

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

DWG #TAM 3/050.18 1122/8 DWG #TAM 3/056-125

Use one form for each individual who review A. Project Information	vs and takes re	sponsibility for design activi Application in		the project.
Building number, street name		Application	Unit no.	Lot/con.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other descr	iption	
B. Individual who reviews and takes	s responsibil	ty for design activities		
Name SAM KATSOULAKOS		Firm MICRO CITY ENG	INEERING SERVI	CES INC.
Street address R.R #1, PO BOX 61			Unit no.	Lot/con.
Municipality GLENCOE	Postal code N0L 1M0	Province ONTARIO	E-mail	
Telephone number (519) 287-2242 Business	Fax number (519) 287-575		Cell number	
C. Design activities undertaken by Division Cl	' '		ullding Code Ta	able 3.5.2.1. of
☐ House	☐ HVAC	– House	⊠ Building :	
☐ Small Buildings	☐ Buildin		☐ Plumbing	
☐ Large Buildings	☐ Detecti	ion, Lighting and Power		– All Buildings ewage Systems
☐ Complex Buildings Description of designer's work ROYAL PIN				
1ST FLOOR - STANDARD (SCHEDULE IS	S NOT ISSUED	AS LOT SPECIFIC)		
REVIEW PRE-ENGINEERED FLOOR SYS			OUT PLACEMEN	T PLAN SUPPLIED BY
TAMARACK ROOF TRUSSES INC. (SEE I SUPPORTING STRUCTURE TO BE REVIE	WED AND VE	RIFFO BY QUALIFIFD BUIL	DING DESIGNER	₹.
D. Declaration of Designer				
I, <u>SAM KATS</u> C	ALLAKOS d	eclare that (choose one as a	annronriate):	
I, <u>SAM KAISC</u> (print nam		eciale illat (choose one as a	арргорнаце).	
☑ I review and take responsibili C, of the Building Code. I am	ty for the design	n work on behalf of a firm re ne firm is registered, in the a	gistered under sub oppropriate classes	osection 3.2.4.of Division s/categories.
Individual BCIN:2606	34			
Firm BCIN: 2999)1			
☐ I review and take responsibilit under subsection 3.2.5.of Divi Individual BCIN:	y for the design ision C, of the B	and am qualified in the app duilding Code.	propriate category	as an "other designer"
Basis for exemption from	registration:			
☐ The design work is exempt from	om the registrati	ion and qualification require		
•	registration and	d qualification:		
I certify that:				
1. The information contained in this s			Э.	
2. I have submitted this application w	ritri the Knowled	ge and consent of the firm.		
			<u></u>	
Date	112218	Signature of Designer	<u> </u>	

NOTE:

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG #TAM 31057-185 DWG #TAM 31057-185

Use one form for each individual who review	vs and takes res	sponsibility for desig	n activities with respect to th	ne project.
A. Project Information		Applica	ation number:	
Building number, street name			Unit no.	Lot/con.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other	er description	
B. Individual who reviews and takes	s responsibili	ty for design act	ivities	
Name		Firm		33433900 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SAM KATSOULAKOS		MICRO CIT	Y ENGINEERING SERVICE	
Street address R.R #1, PO BOX 61			Unit no.	Lot/con.
Municipality GLENCOE	Postal code N0L 1M0	Province ONTARIO	E-mail	
Telephone number (519) 287-2242 Business	Fax number (519) 287-5756	Lower	Cell number	
C. Design activities undertaken by			B. [Building Code Tab	le 3.5.2.1. of
Division G				
. 🗖 House	☐ HVAC	– House	■ Building Str	uctural
☐ Small Buildings		g Services	☐ Plumbing —	
☐ Large Buildings		on, Lighting and Po		
☐ Complex Buildings		otection	On-site Sew	/age Systems
Description of designer's work ROYAL PIN 2ND FLOOR (SCHEDULE IS NOT ISSUED	LE HOWES - FO	SIEIC) SIEIC)	JEL: UNIT 1004 - ELEV. A	
REVIEW PRE-ENGINEERED FLOOR SYS	TEM COMPON	FNT DRAWINGS A	ND LAYOUT PLACEMENT I	PLAN SUPPLIED BY
TAMARACK ROOF TRUSSES INC. (SEE I	OWG #TAM310	52-18 DATED 11-12	-18).	
SUPPORTING STRUCTURE TO BE REVI	EWED AND VEI	RIFED BY QUALIFII	ED BUILDING DESIGNER.	
D. Declaration of Designer				
Control of the Contro	NII AKOO da	alara that (ahaasa	no co appropriato):	
I, <u>SAM KATSC</u>		eclare that (choose	one as appropriate).	
(print nam 区 I review and take responsibili	e) itu for the decign	work on boholf of	firm registered under subs	action 3.2.4 of Division
☑ I review and take responsibill C, of the Building Code. I am	aualified and th	ne firm is registered.	in the appropriate classes/c	ategories.
O, of the ballang code. I am	quamiou, and a	,		
Individual BCIN: <u>2606</u>	54			
Firm BCIN: 2999	91			:
☐ I review and take responsibilition	ty for the design	and am qualified in	the appropriate category as	an "other designer"
under subsection 3.2.5.of Div	ision C, of the B	Building Code.		
Individual BCIN:				
Basis for exemption from	registration:		0	
☐ The design work is exempt from	om the registrati	ion and qualification	requirements of the Building	Code.
Pagis for exemption from	registration an	d qualification:		,
I certify that:	. rogionanon an	a 43411104110111		
	chedule is true	to the best of my kn	owledge	
2. I have submitted this application v	AITH THE KHOWIEC	ge and consent of the	io mili.	
			_	
Date	112218	Signature of Design	ner	

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG#TAM 3/052-185 DWG#TAM 3/058-185

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project A. Project Information Application number: Building number, street name Unit no. Lot/con. Plan number/ other description Municipality CITY OF BRAMPTON Postal code B. Individual who reviews and takes responsibility for design activities Name SAM KATSOULAKOS MICRO CITY ENGINEERING SERVICES INC. Street address Unit no. Lot/con. R.R #1, PO BOX 61 Municipality Postal code Province E-mail **GLENCOE** NOL 1MO **ONTARIO** Telephone number Fax number Cell number (519) 287-2242 (519) 287-5750 Business C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C1 ☑ Building Structural ☐ House HVAC - House ☐ Small Buildings **Building Services** ☐ Plumbing - House ☐ Large Buildings Detection, Lighting and Power ☐ Plumbing – All Buildings ☐ Complex Buildings ☐ On-site Sewage Systems ☐ Fire Protection Description of designer's work ROYAL PINE HOMES - FOREST SIDE - MODEL: UNIT 1804 - 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 #TAM31053-18 DATED 11-12-18). SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER. D. Declaration of Designer I, <u>SAM KATSOULAKOS</u> declare that (choose one as appropriate): (print name) ☑ 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. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: 26064 Firm BCIN: 29991 ☐ I review 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: Basis for exemption from registration: _ ☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: I certify that: The information contained in this schedule is true to the best of my knowledge. I have submitted this application with the knowledge and consent of the firm. 111218 Signature of Designer Date

NOTE:

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

DWG#TAM31053 -185 DWG#TAM 31059 -185

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project Application number: A. Project Information Building number, street name Unit no. Lot/con. Municipality CITY OF BRAMPTON Postal code Plan number/ other description B. Individual who reviews and takes responsibility for design activities MICRO CITY ENGINEERING SERVICES INC. **SAM KATSOULAKOS** Lot/con. Unit no. Street address R.R #1, PO BOX 61 Postal code E-mail Province Municipality NOL 1MO **GLENCOE ONTARIO** Cell number Fax number Telephone number (519) 287-5750 (519) 287-2242 Business C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C1 HVAC - House ■ Building Structural House ☐ Plumbing – House Small Buildings **Building Services** Detection, Lighting and Power ☐ Plumbing – All Buildings ☐ Large Buildings ☐ Fire Protection ☐ On-site Sewage Systems Complex Buildings Description of designer's work ROYAL PINE HOMES - FOREST SIDE - MODEL: UNIT 1804 - ELEV. A 3RD 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 #TAM31054-18 DATED 11-12-18). SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER. D. Declaration of Designer I, SAM KATSOULAKOS __declare that (choose one as appropriate): (print name) 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. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: 26064 Firm BCIN: 29991 ☐ I review 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: 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. I have submitted this application with the knowledge and consent of the firm. 111278 Signature of Designer

NOTE:

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

DWG #TAM 37059-185 1171E DWG #TAM 31060185

Use one form for each individual who review	vs and takes res	sponsibility for design activ	ities with respect to	the project.
A. Project Information		Application	Unit no.	Lot/con.
Building number, street name			Office 110.	Low oom.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other desc	cription	
B. Individual who reviews and take	s responsibili	ity for design activities		
Name		Firm	NINEEDING SERVI	CES INC
SAM KATSOULAKOS Street address		WICRO CITY ENC	Unit no.	Lot/con.
R.R #1, PO BOX 61			011101	
Municipality GLENCOE	Postal code N0L 1M0	Province ONTARIO	E-mail	
Telephone number (519) 287-2242 Business	Fax number (519) 287-575		Cell number	
C. Design activities undertaken by	individual ide	ntified in Section B. [Building Code Ta	able 3.5.2.1. of
Division CI			-	ostania di conse
☐ House	☐ HVAC		⊠ Building	
☐ Small Buildings	☐ Buildin ☐ Detecti	g Services ion, Lighting and Power	☐ Plumbing	– House – All Buildings
☐ Large Buildings ☐ Complex Buildings		otection		ewage Systems
Description of designer's work ROYAL PIN	IE HOMES - FO	OREST SIDE - MODEL: U		
3RD FLOOR (SCHEDULE IS NOT ISSUEI	O AS LOT SPEC	CIFIC)		•
REVIEW PRE-ENGINEERED FLOOR SYS	STEM COMPON	IENT DRAWINGS AND LA	YOUT PLACEMEN	I PLAN SUPPLIED BY
TAMARACK ROOF TRUSSES INC. (SEE I SUPPORTING STRUCTURE TO BE REVI	JWG #TAW310: EWED AND VE	00-18 DATED 11-12-10). RIFED BY OUALIFIED BU	II DING DESIGNER	₹.
D. Declaration of Designer		(11 20 0) (20 12 12 2		
1. O STATE OF THE PROPERTY OF				State (1907) in the first state (1907) the state of the s
I, <u>SAM KATSC</u>		eclare that (choose one as	appropriate):	
(print nam 区 I review and take responsibil	ie) itu fan tha daoim	a wark on bobalf of a firm r	ogistorod under sul	heaction 3.2.4 of Division
☐ I review and take responsibil ☐ C, of the Building Code. I am	ity for the design	ne firm is registered, in the	appropriate classe:	s/categories.
O, or the ballang code. I am	quamiou, and a	io iiiii io regione ai, iii iiii		· ·
Individual BCIN: <u>260</u> 6	64			
Firm BCIN: <u>299</u> 9	91			
☐ I review and take responsibili	ty for the design	and am qualified in the ap	propriate category	as an "other designer"
under subsection 3.2.5.of Div	ision C, of the E	Building Code.		
Individual BCIN:				
Basis for exemption from	registration:			
☐ The design work is exempt fr	om the registrat	ion and qualification requir	ements of the Build	ling Code.
Basis for exemption from	registration an	d qualification:		
I certify that:				
The information contained in this s				
2. I have submitted this application v	vith the knowled	lge and consent of the firm		
Date /	12218	Signature of Designer	1	

NOTE:

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

DWG #TAM 3 1 055 .185 DWG #TAM 3 1 06/ -185

NORDIC STRUCTURES

COMPANY J9 1ST FLOOR July 6, 2018 16:22 **PROJECT** J4 3RD FLOOR J4 3RD FLOOR EL B

Design Check Calculation Sheet

Nordic Sizer - Canada 7.1

Loads:

Load	Type	Distribution	Pat- tern	Location Start	[ft] End	Magnitude Start End	Unit
Load1 Load2	Dead Live	Full Area Full Area				20.00 40.00	psf psf

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

1	18'-9.75"	ţ
	18'-2.'	1 74"

	0,		18'-2.74"
Unfactored: Dead Live	182 .365		182 365
Factored: Total	775		775
Bearing:	7.70		
Resistance Joist Support	2336 10841	OFESSION	2336 10841
Des ratio Joist Support	0.33 0.07	Se la contraction de la contra	0.33 0.07
Load case	#2	1º ARVINI	#2
Length	4-3/8	S € FOK	4-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		1.00
KD .	1.00		1.00
KB support	1.00	Company of the compan	769
fcp sup	769		1.15
Kzcp sup	1.15		1.13

Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

Nordic 11-7/8" NI-80 Floor joist @ 12" o.c.
Supports: All - Lumber Wall, No.1/No.2
Total length: 18'-9.75"; Clear span: 18'-0.99"; 5/8" nalled and glued OSB sheathing with 1/2" gypsum celling This section PASSES the design code check.

> DWO NO. TAM 8398-18 1 STRUCTURAL COMPONENT ONLY

TUSUSOF

J4 3RD FLOOR EL B

Nordic Sizer - Canada 7.1

Page 2

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

Criterion	Analysis Value	.Design Value	Unit	Analysis/Design
Shear	Vf = 775	Vr = 2336	lbs	Vf/Vr = 0.33
Moment (+)	Mf = 3530	Mr = 11609	lbs-ft	Mf/Mr = 0.30
Perm, Defl'n	0.09 = < L/999	0.61 = L/360	in .	0.15
Live Defl'n	$0.19 = \langle L/999$	0.46 = L/480	in	0.41
Total Defl'n	0.28 = L/776	0.91 = L/240	in	0.31
Bare Defl'n	$0.21 = \langle L/999$	0.61 = L/360	in	0.34
Vibration	Lmax = 18'-2.8	Lv = 20'-5.8	ft	0.89
Defl'n	= 0.026	= 0.034	in	0.75

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KТ	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	***	••	#2
Mr+	11609	1.00	1.00	-	1,000	-	-	-	#2
EI	547.1 m	illi.on			-		-	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5LMoment(+): LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent) LC #2 = 1.0D + 1.0L (live)LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth, groundwater E=earthquake L=live(use, occupancy) Ls=live(storage, equipment) f=fire

All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:

613e06 lb-in2 K= 6.18e06 lbs Deflection: Eleff = "Live" deflection = Deflection from all non-dead loads (live,

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2010 National Building Corgon Division B, Part 4, and the CSA 086-09 Engineering Design in Wood standard, which in the default deflection limits are appropriate for your application.

2. Please verify that the default deflection limits are appropriate for your application. 3. Refer to Nordic Structures technical documentation for installation guidelines and construction

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

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.

> DWG NO. TAM 8396 TOH STRUCTURAL COMPONENT ONLY

T. W. (5080)





PASSED

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Dropped Beams\B2 DR(i2658)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl File name:

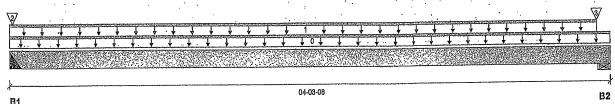
Wind

Description: 1ST FLOOR FRAMING\Dro...ed Beams\B2 DR(I2658)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 04-03-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2-1/2"	63 / 0	58/0
B2. 3-1/2"	61 / 0	56 / 0

ما	ad Cumman							Live	Dead	Snow	Wind	Tributary
Tag	ad Summary Description		Load Type	Ref.	Start	End	Loc	 1.00	0.65	1.00	1.15	
0	Self-Weight	· · ·	Unf. Lin. (lb/ft)	L	00-00-00	04-03-08	Тор		10			00-00-00
1	R1(12828)		Unf, Lin, (lb/ft)	· L	00-00-00	04-02-06	Top	 28	16			n\a
,	R1(i2828)	•	Conc. Pt. (lbs)	L	00-00-04	00-00-04	Top	5	4			n\a
3	R1(12828)		Conc. Pt. (lbs)	L	04-02-06	04-02-06	Top	3	1			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	141 ft-lbs	23,220 ft-lbs	0.6%	-1	02-01-04
End Shear	81 lbs	11,571 lbs	0.7%	1	01-00-00
Total Load Deflection	L/999 (0.001")	n\a	n\a	. 4	02-01-04
Live Load Deflection	L/999 (0")	n\a	n\a	Б	02-01-04
Max Defl.	0.001"	n\a	n\a	4	02-01-04
Span / Depth	4.9			٠	A STATE OF THE STA

Rearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2-1/2" x 3-1/2"	167 lbs	n\a	1.6%	HUC410
B2	Wall/Plate	3-1/2" x 3-1/2"	161 lbs	0.9%	1.1%	Unspecified

Header for the hanger-HUC410 at B1 is a Triple 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF. Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

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.

Hanger Manufacturer: Unassigned

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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

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.

Member has no side loads.

STRUCTURAL COMPONENT ONLY

T. 181500



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1ST FLOOR FRAMING\Dropped Beams\B2 DR(i2658)

Passed

July 6, 2018 14:05:35

BC CALC® Member Report

Bulld 6475

Job name:

Address:

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

Customer:

Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl

File name: Description:

1ST FLOOR FRAMING\Dro...ed Beams\B2 DR(i2658)

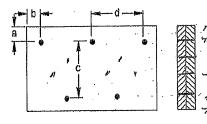
Specifier:

Designer:

CCMC 12472-R Code reports:

Company:

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3"

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. Member has no side loads.

Connectors are: 16d

3-1/2" ARDOX SPIRAL



Disclosure

Use of the Bolse Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of Input Completeness and accuracy of Input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Bolse Cascade engineered wood products must be in accordance with current installation accordance with current Installation Guide and applicable building codes. To obtain installation Guide or ask questions, please call (800)232-0788 before installation.

DWB NO. TAM 839918 STRUCTURAL ... COMPONENT ONLY

BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, JULY VERSA-LAMO, VERSA-RIM PLUSO





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

PASSED

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Flush Beams\B1 DR(i2853)

BC CALC® Member Report

Bulld 6475

Code reports:

Job name:

Address:

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

CCMC 12472-R

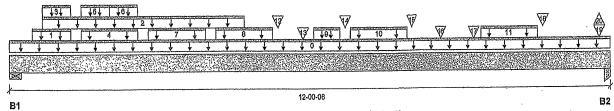
Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B1 DR(I2853)

Specifier:

Designer: Company:



Total Horizontal Product Length = 12-00-08

Snow

Reaction Summary (Down / Uplift) (lbs)

Live Dead Bearing 2,437/0 B1, 3-1/2" 3,758/0 B2, 5-1/4" 5,381/4 3,891/0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-00-08	Top		18			00-00-00
1	Bk1(12691)	Unf. Lin. (lb/ft)	L	00-05-08	01-02-12	Top		81			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-88-00	04-08-00	Top	417	222			n\a
3	Bk1(i2691)	Unf. Lin. (lb/ft)	L	00-88-00	01-02-12	Top	328	164			n\a
4	Bk1(12796)	Unf. Lin. (lb/ft)	L	01-05-04	02-06-12	Top		81			n\a
5	Bk1(l2796)	Unf. Lin. (lb/ft)	L	01-05-04	02-00-00	Top	328	164			n\a
6	Bk1(l2796)	Unf, Lin, (lb/ft)	L	02-00-00	02-06-12	Top	354	177			n\a
7	Bk1(i2809)	Unf. Lin. (lb/ft)	L	02-09-04	03-10-12	Top	354	258			n\a
8	Bk1(i2809)	Unf. Lin. (lb/ft)	L,	04-01-04	05-02-12	Top	354	258			n\a
9	Bk1(I2751)	Unf. Lin. (lb/ft)	L	06-00-08	06-06-12	Top	354	258		· 40*	n\a
10	Bk1(i2809)	Unf. Lin. (lb/ft)	L	06-09-04	07-10-12	Тор	354	258		TATE	n\a
11	Bk1(i2809)	Unf. Lin. (lb/ft)	L	09-05-04	10-06-12	Top	354	258	7	J. Winner	n\a
12	DK ((12000)	Conc. Pt. (lbs)	L	05-04-00	05-04-00	Top	475	263	PEOFE	SICA	n\a
13	J2(l2664)	Conc. Pt. (lbs)	L	05-10-00	05-10-00	Top	388	236,0	ALC: NO.	The second	nla
14	02(12004)	Conc. Pt. (lbs)	ï.	06-08-00	06-08-00	Top	454	236 85	A Instit	11/	n\a
15	_	Conc. Pt. (lbs)	Ĺ	08-00-00	08-00-00	Тор	447	281	COMM	A Comment	🕻 🕽 n\a
16	_	Conc. Pt. (lbs)	Ĺ	08-07-06	08-07-06	Top	511	324	E. N	FOK	in\a
17		Conc. Pt. (lbs)	Ĺ	09-03-07	09-03-07	Top	548	324 344	<u> </u>		n\a
18	_	Conc. Pt. (lbs)	L	10-08-00	10-08-00	Top	757	466	5		_ n∖a
19	B4(12855)	Conc. Pt. (lbs)	ĩ	11-09-14	11-09-14	Тор	1,485	184		THE REAL PROPERTY.	n\a n\a
20	B4(12855)	Conc. Pt. (lbs)	Ĺ	11-09-14	11-09-14	Top	-4		FACT	536 638	n\a
40	טיינובטטטן	\$ \$110, 1 t. (100)		**	,				1. S.	Carried in No.	

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	26,923 ft-lbs	55,212 ft-lbs	48.8%	1	05-10-00
End Shear	8.738 lbs	21,696 lbs	40.3%	1	10-07-06
Total Load Deflection	L/446 (0.308")	n\a	53.8%	6	06-00-08
Live Load Deflection	L/732 (0.187")	n\a	49.2%	8	06-00-08
Max Defl.	. 0,308"	n\a	n\a	6	06-00-08
Span / Depth	11.6				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	3-1/2" x 5-1/4"	8,684 lbs	33,4%	38.7%	Unspecified
B2	Column	5-1/4" x 5-1/4"	12,935 lbs	57,8%	38.5%	Unspecified

DWG NO , TAN B 400-18 LF STRUCTURAL P6 COMPONENT ONLY



Wale.





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

PASSED

1ST FLOOR FRAMING\Flush Beams\B1 DR(i2853)

BC CALC® Member Report

Dry | 1 span | No cant.

July 6, 2018 14:05:35

Build 6475

Job name: Address:

File name: Description: UNIT 1804 CORNER new.mmdl

1ST FLOOR FRAMING\Flush Beams\B1 DR(i2853)

Customer:

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

Specifier:

Designer:

Code reports:

CCMC 12472-R

Company:

Notes

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

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

Calculations assume unbraced length of Top: 00-10-10, Bottom: 00-10-10.

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 2015 and CSA 086.

Design based on Dry Service Condition.

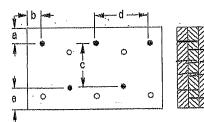
CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

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.

Nalling schedule applies to both sides of the member.

Connection Diagram: Full Length of Member



a minimum = 2"

c = 6-7/8" 4 d=00 6 e minimum = 2"

 $b \min = 3"$

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*

Use of the Bolse Cascade Software Is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of Input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to expert to assure its adequacy, prior to anyone relying on such output as evidence of sultability for a particular application. The output here is 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 (800)232-0788 before installation.

DWO NO . TAM BY00-1814 STRUCTURAL COMPONENT ONLY

BC CALC®, BC FRAMER® , AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

T. (811510(r)





Passed

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Flush Beams\B10(i2851)

BC CALC® Member Report

Build 6475

Job name:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

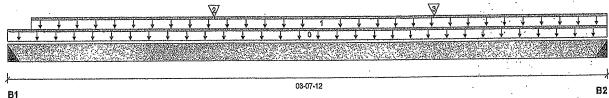
UNIT 1804 CORNER new.mmdl File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B10(i2851)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 03-07-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2"	499 / 0	258 / 0
B2, 2"	541/0	279 / 0

l o	ad Summary		•					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.		1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (00-00-00	03-07-12	Тор			5			00-00-00
1	STAIR	Unf, Lin, (•	00-01-12	03-07-12	Top	•	240	120			n\a
2	J8(12865)	Conc. Pt.		01-03-00	01-03-00	Top		105	52			n\a
3	J8(i2863)	Conc. Pt,		02-07-00	02-07-00	Тор		95	47			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	986 ft-lbs	11,610 ft-lbs	8.5%	1	01-09-08
End Shear	665 lbs	5,785 lbs	11.5%	1	02-08-04
Total Load Deflection	L/999 (0.006")	n\a	n\a	4 .	01-10-00
Live Load Deflection	L/999 (0.004")	n\a	n\a	5	01-10-00
Max Defl.	0.006"	. n\a	n\a	4	01-10-00
Snan / Denth	4.3				and the second

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1 Hanger	2" x 1-3/4"	1,070 lbs	n\a	25.1%	Hanger	
B2 Hanger	2" x 1-3/4"	1,160 lbs	n\a	27.2%	Hanger	

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

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.

Hanger Manufacturer: Unassigned

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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Disclosure

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Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to secure its adequacy prior to expert to assure its adequacy, prior to anyone relying on such output as evidence of sulfability for a particular application. The output here is 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 (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®

DWGNO. TAM B401 - 98H STRUCTURAL COMPONENT ONLY

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PASSED

Tributary

00-00-00 · n\a nla n\a n\a

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Flush Beams\B3(i2849)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer:

Code reports:

Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl

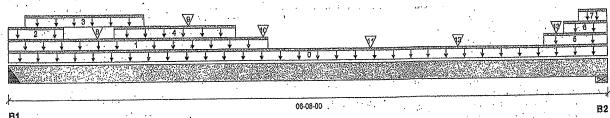
File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B3(i2849)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 06-08-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing B1, 3" Live 1,004/0 1,557 / 0 1,036 / 0 B2, 5-1/2" 1,746 / 0

CCMC 12472-R

Loc	ıd Summarı	, "							Llv.e	Dead	Snow	Wind
Tag		,	Load Type	Ref.	Start	End	Loc.		1.00	0.65	1.00	1.15
0	Self-Weight	~* ***********************************	Unf. Lin. (lb/ft)	L	00-00-00	06-08-00	Top			10		
1	2(1188)		Unf. Lin. (lb/ft)	L	00-00-00	02-10-08	Top			81		
י מ	2(1188)		Unf. Lin. (lb/ft)	L	00-00-00	00-07-08	Top		218	105		
3 .	2(1188)		Unf. Lin. (lb/ft)	Ĺ	00-02-04	01-06-04	Top		251	126		
4	2(1188)		Unf. Lin. (lb/ft)	Ĺ	01-02-04	02-06-04	Top		266	133		•
5	5(1286)		Unf. Lin. (lb/ft)	i ī	05-11-08	06-08-00	Top			81		
-	., ,	•	Unf. Lin. (lb/ft)	- 1.		06-08-00	Top		108	54		
- 6	5(1286)	•	Unf. Lin. (lb/ft)	ī	06-04-04	06-08-00	Top		206	103		
<i>(</i>	5(1286)		Conc. Pt. (lbs)	ī	01-00-00	01-00-00	Top	*	173	86	•	•
· 8	J5(i2673)		Conc. Pt. (lbs)	, L-	02-00-00	02-00-00	qoT		188	94		
9	J6(12680)		Conc. Pt. (lbs)	· 1	02-00-00	02-09-14	Top		842	440	بغوريب المستر	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
10	17(14.000)		Conc. Pt. (lbs)	i	04-00-00	04-00-00	Top		129 -	65	Land To	······································
11	J7(11862)	٠.	Conc. Pt. (lbs)	ī	05-00-00	05-00-00		•	. 188	94	CHOPES	SICNA
12 _. 13	J6(12788) -	•	Conc. Pt. (lbs)	Ĺ	06-01-04	06-01-04		. 12.	843	4899	PHOPES	alix
	•• *				_				. J.F	1 2 1	KIQY	Kar Maria

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5,153 ft-lbs	23,220 ft-lbs	22,2%	1	02-09-08
End Shear	2,883 lbs	11,571 lbs	24.9%	1	01-00-08
Total Load Deflection	L/999 (0.045")	· n\a	n\a	4 .,	03-01-08
Live Load Deflection	L/999 (0.028")	n\a	n\a	5	03-01-08
Max Defl.	0.045"	n\a	n\a	4	03-01-08
Span / Depth	7.7				

Design Cupperts	Film (LadA)	Demand	Demand/ Resistance Support	Demand/ Resistance Member Material	, ÷
Bearing Supports B1 Hanger	Dim. (LxW) 3" x 3-1/2"	· 3,591 lbs	n/a	28.0% ; HGUS4	
B2 Wall/Plate	5-1/2" x 3-1/2"	3,915 lbs	38.1%	16.7% Unspeci	fied ·

Header for the hanger HGUS410 at B1 is a Triple 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF, Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

STRUCTURAL COMPONENT ONLY





1ST FLOOR FRAMING\Flush Beams\B3(i2849)

Dry | 1 span | No cant.

July 6, 2018 14:05:35

PASSED

BC CALC® Member Report

Bulld 6475

Job name:

Address:

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

Customer: Code reports:

File name:

UNIT 1804 CORNER new.mmdl

Description:

1ST FLOOR FRAMING\Flush Beams\B3(i2849)

Specifier:

Designer:

CCMC 12472-R

Company:

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.

Hander Manufacturer: Unassigned

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 2015 and CSA 086.

Design based on Dry Service Condition.

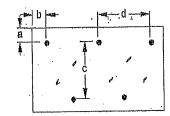
Importance Factor: Normal Part code: Part 9

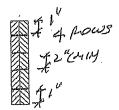
CONFORMS TO OBC 2012

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.

Connection Diagram: Full Length of Member





a minimum = # b minimum = 3"

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: 16d 1. Nails

3-1/2" ARDOX SPIRAL



Disclosure ...

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BC CALC®, BC FRAMER® , AJSTM BC CALLOW, BC FRANKEINS, ANS..., ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

-classi()



PASSED

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Flush Beams\B4(i2855)

BC CALC® Member Report

Build 6475

Job name:

Address:

Customer:

Code reports:

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

CCMC 12472-R

Dry | 1 span | No cant.

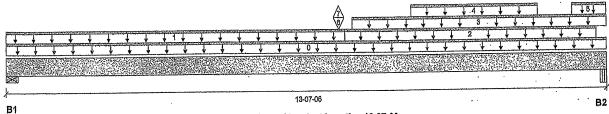
UNIT 1804 CORNER new.mmdl File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B4(i2855)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 13-07-06

Reaction Summary (Down / Uplift) (lbs) Dead Bearing Live 1,057/3 825 / 0 B1, 2-3/8 1,345 / 0 B2, 5-1/4" 1,481/4

۱.	ad Summary			•			Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1,15	
0	Self-Welght	Unf. Lln. (lb/ft)	L.	00-00-00	13-07-06	Тор		14			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	07-07-06	Top	47	24			n\a
ģ.	FC1 Floor Material	Unf. Lin. (lb/ft)	L	07-07-06	13-04-12	Top	28	14			n\a
<u>ر</u> م	3(1192)	Unf. Lin. (lb/ft)	L	07-09-06	13-07-06	Top		81			n\a
A	3(1192)	Unf. Lin. (lb/ft)	Ĺ	09-01-10	. 12-00-10	Top	53	21			n\a '
4 5	3(192)	Unf. Lin. (lb/ft)	Ī.	12-10-02	13-07-06		254	120			n\a
-	. ' '	Conc. Pt. (lbs)	Ī.	07-05-11	07-05-11	Top	1,660	1,084			n\a
6	•	Conc. Pt. (lbs)	ī	07-05-11	07-05-11	qoT	-7				n\a
7	-	Cono. Pt. (ibs)	l	07-00-11.	D, 30 11	1-					

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	15,875 ft-lbs	36,222 ft-lbs	43.8%	1	07-05-10
End Shear	3.453 lbs	17.356 lbs	19.9%	1	12-04-10
Total Load Deflection	L/396 (0.397")	n\a	60.5%	6	06-11-09
Live Load Deflection	L/712 (0.221")	n\a	50,6%	8	06-10-05
Max Defl.	0.397"	n\a	n\a	6	06-11-09
Span / Denth	16.6				

— 1. A			Demand/ Resistance	Demand/ Resistance	Material
Bearing Supports	Dim. (LxW)	Demand	Support	Member	A STREET, STRE
B1 Wall/Plate	2-3/8" x 5-1/4"	2,617 lbs	39.3%	17.2%	Unspecified
B2 Ream	5-1/4" x 5-1/4"	3,903 lbs	13.0%	11.6%	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 2015 and CSA 088.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

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.

Nalling schedule applies to both sides of the member.

DWG NO . TAM 8403-18 H STRUCTURAL COMPONENT ONLY

TH/1513



PASSED

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Flush Beams\B4(i2855)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl File name:

Description:

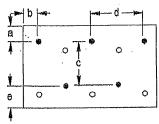
1ST FLOOR FRAMING\Flush Beams\B4(i2855)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = ∦" b minimum = 3"

c = 61/2"

d= 2 124 e minimum = 3"

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: 16d ·Nalls

3-1/2" ARDOX SPIRAL



Disclosure:

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Completeness and accuracy of input
must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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 (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

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PASSED

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Flush Beams\B5(i2856)

BC CALC® Member Report

Build 6475

Job name:

Address:

Customer:

Code reports:

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

CCMC 12472-R

Dry | 1 span | No cant.

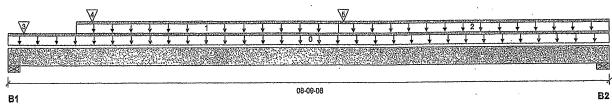
File name: UNIT 1804 CORNER new.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B5(i2856)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 08-09-06

Danation Cummany (Mayor / Unlift) /lhe)

Reaction our	mary (Down / Op	initi (ine)			
Bearing	Live	Dead	Snow	Wind	
B1, 9-1/2"	3,541 / 0	3,972 / 0	1,798 / 0	•	
B2, 4-3/8"	401/0	251 / 0			•

1.0	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-09-06	Тор		10			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	Ĺ	01-00-00	04-09-08	Top	13				n\a
2	FC1 Floor Material	Unf, Lin. (lb/ft)	L	04-09-08	08-09-06	Top	__ 38	19			n\a
3	E28(12867)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	(3,237	3,696	1,798	١	n\a
4	E9(i179)	Conc. Pt. (lbs)	L	01-02-12	01-02-12	Top		81·	,	<i>) :</i>	n\a
5	B10(i2851)	Conc. Pt. (lbs)	L	04-10-06	04-10-06	Top	505	261	w /		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2,601 ft-lbs	23,220 ft-lbs	11.2%	1	04-10-06
End Shear	808 lbs	11,571 lbs	7.0%	1	07-07-08
Total Load Deflection	L/999 (0,034")	n\a	n\a	,35	04-08-05
Live Load Deflection	L/999 (0.021")	n\a	· n\a.	51	04-08-05
Max Defl.	0.034"	n\a	n\a	35	04-08-05
Snan / Denth	9 R	•			

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	9-1/2" x 3-1/2"	12,075 lbs	68.0%	29.8%	Unspecified
B2	Wall/Plate	4-3/8" x 3-1/2"	915 lbs	11.2%	4.9%	Unspecified

Notes

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

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

Calculations assume unbraced length of Top: 00-06-08, Bottom: 00-06-08.

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 2015 and CSA 086.

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

verification,

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

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.

> STRUCTURAL COMPONENT ONLY

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1ST FLOOR FRAMING\Flush Beams\B5(i2856)

BC CALC® Member Report

Dry | 1 span | No cant.

July 6, 2018 14:05:35

Passed

Bulld 6475

Job name:

Address:

CCMC 12472-R

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

Customer: Code reports:

File name:

UNIT 1804 CORNER new.mmdl

Description:

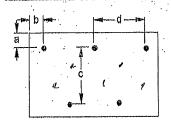
1ST FLOOR FRAMING\Flush Beams\B5(i2856)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum ≔ ‡" b minimum = 3" c = 1-1/2" d = 200

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: Nalls

3-1/2" ARDOX SPIRAL



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DWG NO. TAM 3404 18H STRUCTURAL PGY

WEND. TAM BYD Y-18H BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

- (S115466)





1ST FLOOR FRAMING\Flush Beams\B6(12866)

BC CALC® Member Report **Build 6475**

Dry | 1 span | No cant.

July 6, 2018 14:05:35

Job name:

Address:

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

Customer;

Code reports:

CCMC 12472-R

File name:

UNIT 1804 CORNER new.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B6(i2866)

Specifier:

Designer:

Company:

<u> </u>
08-08-04

Total Horizontal Product Length = 08-08-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	
B1, 2-3/8"	44 / 0	158 / 0	
B2. 4-3/8"	46 / 0	72 / 0	

Lo	ad Summary	,					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-08-04	Тор		10	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		00-00-00
1	FC1 Floor Material	Unf, Lin. (lb/ft)	L	00-00-00	08-08-04	Top	10	5			n\a
2	E7(1177)	Unf, Lin. (lb/ft)	L	00-00-00	00-10-14	Top		81			: n\a
3	E6(I185)	Conc. Pt. (lbs)	L	01-01-10	01-01-10	Тор		28			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	215 ft-lbs	15,093 ft-lbs	1.4%	0	03-10-00
End Shear	179 lbs	7,521 lbs	2.4%	0	00-11-14
Total Load Deflection	L/999 (0,006")	n\a	n\a	. 4	04-02-13
Live Load Deflection	L/999 (0.002")	n\a	n\a	5	04-02-13
Max Defl,	0.006"	n\a	n\a	. 4.	04-02-13
Span / Depth	10.4		•		100

Bearing	3 Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	
B1	Wall/Plate	2-3/8" x 3-1/2"	221 lbs	7.7%	3.4%	Unspecified
B2	Wall/Plate	4-3/8" x 3-1/2"	159 lbs	1.9%	0.9%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

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.

Member has no side loads.

STRUCTURAL COMPONENT ONLY



PASSED

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Flush Beams\B6(i2866)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl

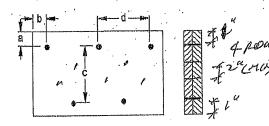
File name: Description: 1ST FLOOR FRAMING\Flush Beams\B6(i2866)

Specifier:

AJ Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

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. Member has no side loads.

Connectors are: 16d Nails

3-1/2" ARDOX SPIRAL



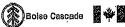
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DWOND. TAN BYOSIBH

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

T-184515(1)





Passed

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Flush Beams\B8(i2857)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl

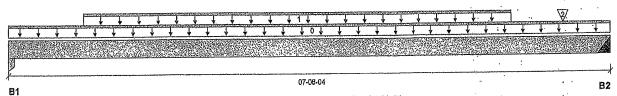
File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B8(I2857)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 07-06-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 3-1/2"	271/0	153 / 0
B2 2"	322 / 0	177 / 0

La	ad Summary	,					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-06-04	Тор		5			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-11-04	06-03-04	Top	94	46			. n\a
2	J7(i2843)	Conc. Pt. (lbs)	L.	06-11-04	06-11-04	Top	93	46			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,304 ft-lbs	11,610 ft-lbs	11.2%	1	04-03-04
End Shear	605 lbs	5,785 lbs	10.5%	1	06-06-12
Total Load Deflection	L/999 (0,034")	n\a	n\a	4	03-10-04
Live Load Deflection	L/999 (0.022")	n\a	n\a	5	03-10-04
Max Defl.	0.034"	n\a	n\a	4	03-10-04
Span / Depth	9.1				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	3-1/2" x 1-3/4"	598 lbs	12.0%	8,0%	Unspecified
B2	Hanger	2" x 1-3/4"	704 lbs	n\a	16.5%	Hanger

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

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.

Hanger Manufacturer: Unassigned

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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Disclosure

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BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARDTM, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DWOND. TAM B40618 H STRUCTURAL COMPONENT ONLY



PASSED

July 6, 2018 14:05:35

1ST FLOOR FRAMING\Flush Beams\B9(i2847)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

UNIT 1804 CORNER new.mmdl

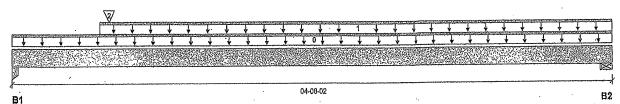
Description: 1ST FLOOR FRAMING\Flush Beams\B9(i2847)

Specifier:

Designer: A.J

Company:

Wind



Total Horizontal Product Length = 04-08-02 Snow

Reaction Summary (Down / Uplift) (lbs)

Live Dead 496 / 0 266 / 0 B1, 1-3/4 149 / 0 87/0 B2, 4-3/8"

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	•	Load Type	Ref.	Start	End	Loc.	 1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-08-02	Тор		5			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-08-04	04-08-02	Top	27	13			n\a
2	B10(i2851)	Conc. Pt. (lbs)	L.	00-09-02	00-09-02	Top	535	276			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	723 ft-lbs	11,610 ft-lbs	6.2%	1	00-09-02
End Shear	813 lbs	5,785 lbs	14.1%	1	00-11-04
Total Load Deflection	L/999 (0,006")	n\a	n\a	4	01-11-14
Live Load Deflection	L/999 (0,004")	n\a	n\a	. 5	01-11-14
Max Defl.	0.006"	n\a	n\a	4	01-11-14
Span / Depth	5.4				-

Bearing	g Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	1-3/4" x 1-3/4"	1,077 lbs	43.3%	28.8%	Unspecified
B2	Wall/Plate	4-3/8" x 1-3/4"	332 lbs	8.1%	3.6%	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 O83.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

ide Software Is Use of the Bollse Q subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of Input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of sultability for a particular application. The output here is 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 (800)232-0788 before installation.

BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue® , VERSA-LAM®, VERSÄ-RIM PLUS® ,

DWOND. TAM BYOPISH STRUCTURAL COMPONENT ONLY





Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLOOR FRAMING\Dropped Beams\B17 DR(i2651)

Passed

BC CALC® Member Report

Dry | 1 span | No cant.

July 6, 2018 14:05:35

Bulld 6475

Job name:

Address:

Customer:

Code reports:

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

CCMC 12472-R

File name:

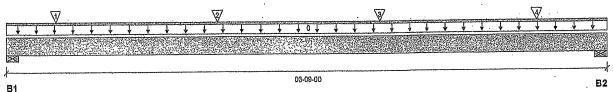
UNIT 1804 CORNER new.mmdl

Description: 2ND FLOOR FRAMING\Dro...d Beams\B17 DR(I2651)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 03-09-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 4"	727 / 0	382 / 0
ווע פּם	673 / 0	354 / 0

Load Summary Tag Description		Load Type		Ref.	Start	End	Loc.		Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0 Self-Weight	.) , 3.	Unf, Lin. (lb/ft)		L.	.00-00-00	03-09-00	Тор		•	10		•	00-00-00
1 -		Conc. Pt. (lbs)	•	L	00-03-12	00-03-12	Тор	:	350	175			n\a
2 "		Conc. Pt. (lbs)		L "	01-03-12	01-03-12	Top	,	350	175			n\a
3 -	٠	Conc. Pt. (lbs)		L ·	02-03-12	02-03-12	Top	;	350	175			n\a
4 -		Conc. Pt. (lbs)		L.	03-03-12	03-03-12	Тор	. :	350	175			n\a

		Factored	Demand/	***	
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	939 ft-lbs	23,220 ft-lbs	4.0%	1	02-03-12
End Shear	810 lbs	11,571 lbs	7.0%	1	01-01-08
Total Load Deflection	L/999 (0.002")	n\a	n\a	· 4	01-10-08
Live Load Deflection	L/999 (0.002")	n\a	ˈn\a	.5	01-10-08
Max Defl.	0.002"	n\a ·	n\a	4	01-10-08
Span / Depth	4.1				:

Bearing Support	S Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Wall/Plate	4" x 3-1/2"	1,568 lbs	13.8%	9.2%	Unspecified
B2 Wall/Plate		1,452 lbs	12.8%	8.5%	Unspecified

Notes

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

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

Calculations assume unbraced length of Top: 00-02-00, Bottom: 00-02-00.

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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

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.

Member has no side loads.

STRUCTURAL PE'E COMPONENT ONLY





Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLOOR FRAMING\Dropped Beams\B17 DR(I2651)

PASSED

July 6, 2018 14:05:35

BC CALC® Member Report

Bulld 6475

Job name:

Address:

Customer: Code reports:

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

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl

File name:

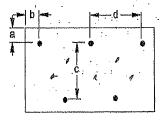
Description: 2ND FLOOR FRAMING\Dro...d Beams\B17 DR(i2651)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = [" b minimum ≈ 3" c = 8-1/2" d = 80 6

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. Member has no side loads.

Connectors are: 16d / Nails

3-1/2" ARDOX SPIRAL



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DWO NO . TAM BYORIOH STRUCTURAL COMPONENT ONLY

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

TUS1515(1)





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July 6, 2018 14:05:35

2ND FLOOR FRAMING\Flush Beams\B11(i2850) Dry | 1 span | No cant.

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

UNIT 1804 CORNER new.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B11(i2850)

Specifier:

Designer:

Company:

\ 3 7	•	
		7

20		
<u></u>	15-04-08	B

Total Horizontal Product Length = 15-04-08

Reaction Sur	ımary (Down / Up	olift) (IDS)			
Bearing	Live	Dead	Snow	Wind	
B1, 9"	3,237 / 0	3,637 / 0	1,798 / 0		
B2 3-1/2"		605 / 0			

l os	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	. End	Loc.	· 1.00 :	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	15-04-08	Тор		10			00-00-00
1	E27(12639)	Unf. Lin. (lb/ft)	Ļ	00-00-00	00-07-00	Top	••	82			n\a
2	E21(1870)	Unf, Lin. (lb/ft)	L	00-07-00	15-04-08	Top	_	72		`	n\a
3	,	Conc. Pt. (lbs)	L.	00-06-02	00-06-02	Top	(3,237	2,989	1,798)	nla

		Factored	Demand/			٠
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location	
Pos. Moment	2.968 ft-lbs	15,093 ft-lbs	19.7%	0	07-11-00	
End Shear	724 lbs	7,521 lbs	9.6%	0	01-06-08	
Total Load Deflection	L/1,088 (0.159")	n\a	22,1%	- 35	07-11-00	
Max Defl.	0.159"	n\a	n\a	35	07-11-00	
Snon / Donth	18 3					

	• :		.:	Demand/ Resistance	Demand/ Resistance	
Bearing	Supports	Dim, (LxW)	Demand	Support	Member	Material
B1	Wall/Plate	9" x 3-1/2"	11,200 lbs	66.6%	29.1%	Unspecified
B2	Wall/Plate	3-1/2" x 3-1/2"	847 lbs	19.9%	8.7%	Unspecified

Notes

Design meets Code minimum (L/240) Total 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 2015 and CSA 086.

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

verification.

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

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.

STRUCTURAL COMPONENT ONLY

T-1845V



PASSED

. July 6, 2018 14:05:35

2ND FLOOR FRAMING\Flush Beams\B11(i2850)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

Customer: Code reports:

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

CCMC 12472-R

Dry [1 span | No cant.

UNIT 1804 CORNER new.mmdl

File name:

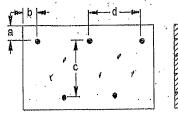
Description: 2ND FLOOR FRAMING\Flush Beams\B11(I2850)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 🕷 b minimum = 3"

c = 3 - 1/2".

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

Connectors are:

3-1/2 ARDOX SPIRAL

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



PASSED

July 6, 2018 14:05:35

2ND FLOOR FRAMING\Flush Beams\B12(i2848)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

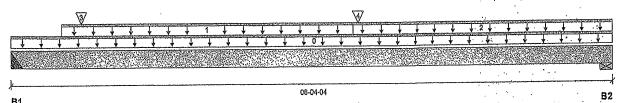
UNIT 1804 CORNER new.mmdl File name:

Description: 2ND FLOOR FRAMING\Flush Beams\B12(i2848)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 08-04-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2"	403 / 0	245 / 0
B2. 2-3/4"	448 / 0	269 / 0

Lac	ad Summary						· Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1,15	
0	Self-Weight	Unf. Lln. (lb/ft)	L	00-00-00	08-04-04	Top		10			00-00-00
1	FC2 Floor Material	Unf, Lin, (lb/ft)	L	00-08-08	04-08-08	Top	22	11			n\a
,	FC2 Floor Material	Unf. Lin. (lb/ft)	L	04-08-08	08-04-04	Top	40	20			n\a
3	FC2 Floor Material	Conc. Pt. (lbs)	L	00-11-13	00-11-13	Тор	113	57			n\a
4	B16(I2756)	Conc. Pt. (lbs)	L	04-09-06	04-09-06	Top	504	260			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2.819 ft-lbs	23,220 ft-lbs	12,1%	1	04-09-06
End Shear	910 lbs	11,571 lbs	7.9%	1	07-04-00
Total Load Deflection	L/999 (0.04")	n\a	n\a	4	04-02-15
Live Load Deflection	L/999 (0.025")	n\a	n\a	5	04-02-15
Max Defl.	0.04"	n\a	n\a	4	04-02-15
Span / Depth	10.2				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	• •
B1	Hanger	2" x 3-1/2"	910 lbs	n\a	10.7%	Hanger	
B2	Wall/Plate	2-3/4" × 3-1/2"	1,009 lbs	19.6%	8.6%	Unspecified	

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

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

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

Calculations assume unbraced length of Top: 00-07-06, Bottom: 00-07-06.

Hanger Manufacturer: Unassigned

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 2015 and CSA 086.

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

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.

STRUCTURAL COMPONENT ONLY





PASSED

July 6, 2018 14:05:35

2ND FLOOR FRAMING\Flush Beams\B12(i2848)

BC CALC® Member Report

Bulld 6475

Job name:

Customer: Code reports:

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

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl

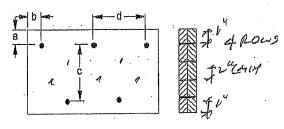
File name: Description: 2ND FLOOR FRAMING\Flush Beams\B12(I2848)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3"

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: 1

3-1/2" ARDOX SPIRAL

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Completeness and accuracy of input
must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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 (800)232-0788 before installation.

DWB NO. FAM BY CO. 18 H
STRUCTURAL
COMPONERT DALY PA

BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue® , VERSA-LAM®, VERSA-RIM PLUS® ,

71811520(5)



PASSED

2ND FLOOR FRAMING\Flush Beams\B13(i4051)

Dry | 1 span | No cant.

November 8, 2018 11:06:26

BC CALC® Member Report Build 6475

Job name:

Address:

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

Customer:

Code reports:

CCMC 12472-R

File name:

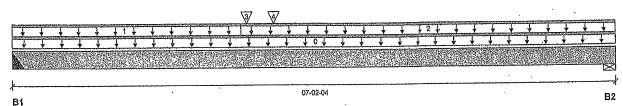
UNIT 1804 CORNER EL B.mmdl

2ND FLOOR FRAMING\Flush Beams\B13(i4051) Description:

Specifier:

Designer:

Company:



Total Horizontal Product Length = 07-02-04 Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing Live B1, 2" 424/0 749/0 300/0 B2, 2-3/4" 510/0

Lo	ad Summary							Live	Dead	Snow	Wind	Tributary
Tag	•	Load Type	Ref.	Start	End	Loc.		-1,00	0.65	1.00	1.15	-
0	· Self-Weight	Unf, Lin. (lb/ft)	L	00-00-00	07-02-04	Top			10			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	Ĺ	00-00-00	02-08-08	Top	٠.	11	6			n\a
2	FC2 Floor Material	Unf, Lin. (lb/ft)	L	02-08-08	07-02-04	Top		19	10			n\a
3	B15(i4067)	Conc. Pt, (lbs)	L	02-09-06	02-09-06	Top		1,105	578			n\a
4	STAIR	Conc. Pt. (lbs)	L	03-01-02	03-01-02	Top	•	37	18			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	4,290 ft-lbs	23,220 ft-lbs	18,5%	1	02-09-06
End Shear	1,620 lbs	11,571 lbs	14.0%	. 1	00-11-08
Total Load Deflection	L/999 (0.042")	n\a .	n\a	4	03-04-09
Live Load Deflection	L/999 (0.027")	n\a	n\a	, 5	03-04-09
Max Defl.	0.042"	n\a	· n\a	4 .	03-04-09
Span / Depth	8.7				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
R1	Hanger	2" × 3-1/2"	1,654 lbs	n\a	19.4%	HUC410
B2	. Wall/Plate	.2-3/4" x 3-1/2"	1,139 lbs	27.7%	9.7%	Unspecified

Header for the hanger HUC410 at B1 Is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

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. .

Hanger Manufacturer: Unassigned

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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

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.

DWGNO. FAMBYII wint STRUCTURAL COMPONENT ONLY

TUSUS





PASSED

2ND FLOOR FRAMING\Flush Beams\B13(i4051)

Dry | 1 span | No cant.

November 8, 2018 11:06:26

BC CALC® Member Report Build 6475

Job name: Address:

Customer:

Code reports:

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

CCMC 12472-R

UNIT 1804 CORNER EL B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B13(i4051)

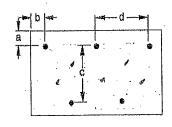
Specifier:

File name:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 🌡 " b minimum = 3" 6"

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: 16d Nails

ARDOX SPIRAL



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UVONO. TAM 8411 -18

STRUCTURAL ALLOISTO, BC FRAMERO, AJS™, ALLJOISTO, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-RIM PLUS®,

Thusu(s)



2ND FLOOR FRAMING\Flush Beams\B14(i2768)

BC CALC® Member Report

Dry | 2 spans | L cant.

July 6, 2018 14:05:35

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

UNIT 1804 CORNER new.mmdl

Description:

2ND FLOOR FRAMING\Flush Beams\B14(i2768)

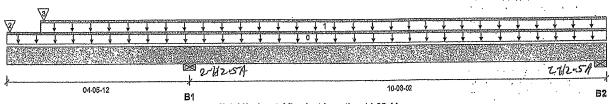
Specifier:

Designer:

AJ

Wind

Company:



Total Horizontal Product Length = 14-08-14

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead 1,115/0 B1, 5-1/2" 1,830 / 0 B2, 2-3/8" 115 / 477 0/134

I۵	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End .	Loc.	1.00	0.65	1.00	1.15	***************************************
0	Self-Welght	Unf. Lin. (lb/ft)	L.	00-00-00	14-08-14	Тор		14			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	Ļ.	00-10-00	14-08-14	Top	22	11			n\a
2	B15(l2817)	Conc. Pt. (lbs)	L.	00-00-14	00-00-14	Top	629	341			· n\a
3	B16(12756)	Conc. Pt. (lbs)	L	00-10-14	00-10-14	Тор	522	268			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	17 ft-lbs	36,222 ft-lbs	n\a	6	13-10-03
Neg. Moment	-10,612 ft-lbs	-36,222 ft-lbs	29.3%	1	04-05-12
End Shear	864 lbs	17,356 lbs	5,0%	2 .	13-09-00
Cont. Shear	2.695 lbs	17.356 lbs	15.5%	1	03-05-08
Total Load Deflection	2xL/300 (0.359")	n\a	80.1%	9	00-00-00
Live Load Deflection	2xL/452 (0.238")	n\a	79.6%	. 12	00-00-00
Total Neg. Defl.	L/999 (-0.106")	n\a	n\a·	9	08-08-08
Max Defl,	-0.106"	:n\à	n\a	9	08-08-08
Span / Depth	12.8		•		Į.

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 5-1/4"	4,138 lbs	26.8%	11.7%	Unspecified
B2	Wall/Plate	2-3/8" x 5-1/4"	51 lbs	0.8%	0.3%	Unspecified
B2	Unlift		883 lbs			

Cautions

Uplift of 882 lbs found at span 2 - Right.

STRUCTURAL COMPONENT GNLY





2ND FLOOR FRAMING\Flush Beams\B14(12768)

BC CALC® Member Report

Build 6475

Job name: Address:

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

Customer: Code reports:

CCMC 12472-R.

Dry | 2 spans | L cant,

UNIT 1804 CORNER new.mmdl

File name: 2ND FLOOR FRAMING\Flush Beams\B14(i2768) Description:

Specifier:

Designer:

Company:

Notes

Design meets User specified (2xL/240) Total load deflection criteria.

Design meets User specified (2xL/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 2015 and CSA 086.

Design based on Dry Service Condition.

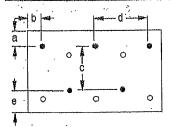
Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends. 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.

Connection Diagram: Full Length of Member



a minimum = \$" b minimum = 3" c = 61/2" 8" d = 🐠 e minimum = 72."

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. Nalling schedule applies to both sides of the member.

Connectors are:

3-1/2" ARDOX SPIRAL



July 6, 2018 14:05:35

Disclosure ---

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DWGNO. TAM B 4/2-18 H STRUCTURAL TRINOPHOS

BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®

T-181521(x)





PASSED

July 6, 2018 14:05:35

2ND FLOOR FRAMING\Flush Beams\B15(i2817)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

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

Customer: Code reports: Dry | 1 span | No cant.

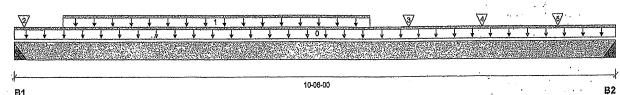
UNIT 1804 CORNER new.mmdl File name:

Description: 2ND FLOOR FRAMING\Flush Beams\B15(i2817)

Specifier:

Designer: ΑJ

Company:



Total Horizontal Product Length = 10-06-00 Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2"	624 / 0	339 / 0
B2, 2"	1,051 / 0	552 / 0

CCMC 12472-R

Los	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1,15	
0	Self-Weight	Unf, Lin, (lb/ft)	L.	00-00-00	10-06-00	Тор		5			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-10-00	06-02-00	Top	89	45			n\a
2	J4(i2748)	Conc. Pt. (lbs)	L.	00-02-00	00-02-00	Тор	80	40			n\a
3	J4(12697)	Conc. Pt. (lbs)	L	06-10-00	06-10-00	Тор	274	137			n\a
4	J4(i2783)	Conc. Pt. (lbs)	L	08-02-00	08-02-00	Тор	439	220			n\a
5	J4(l2811)	Conc. Pt. (lbs)	L	09-06-00	09-06-00	Тор	406	203			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pas. Moment	4,491 ft-lbs	11,610 ft-lbs	38.7%	1	06-10-00
End Shear	2,261 lbs	5,785 lbs	39.1%	1	09-06-08
Total Load Deflection	L/524 (0,236")	n\a	45.8%	4	05-06-00
Live Load Deflection	L/804 (0,154")	n\a	44.8%	5	05-06-00
Max Defl.	0.236"	n\a	n\a	4	05-06-00
Span / Depth	13.0				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Hanger	2" x 1-3/4"	1,359 lbs	n\a	31.8%	Hanger	
B2	Hanger	2" x 1-3/4"	2,267 lbs	n\a	53.1%	Hanger	

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned.

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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

DWG NO. TAMB 413-18 H STRUCTURAL COMPONENT ONLY



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BC CALC®, BC FRAMER® , AJSTM ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, · VERSA-LAM®, VERSA-RIM PLUS® ,



PASSED

July 6, 2018 14:05:35

2ND FLOOR FRAMING\Flush Beams\B16(i2756)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

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

Customer:

Code reports:

Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl File name: 2ND FLOOR FRAMING\Flush Beams\B16(i2756) Description:

Wind

Specifier:

Designer:

Company:

	abla			4
		1 11 1 1 1 1	1 1 1 1 1 1 1	4 4 4 4 4 1
}		03-04-12		

Total Horizontal Product Length = 03-04-12

Snow

Reaction Summary (Down / Uplift) (lbs)

CCMC 12472-R

Bearing	Live	Dead
B1, 2"	503 / 0	259 / 0
B2, 2"	522/0	268 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-04-12	Тор	•	5			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L.	00-00-00	03-04-12	Тор	240	120			n\a
2	J5(12725)	Conc. Pt. (lbs)	L	00-10-12	00-10-12	Top	74	37			n\a
3	J5(i2712)	Conc. Pt. (lbs)	L	01-10-12	01-10-12	Top	73	36			n\a
4	J5(12649)	Conc. Pt. (lbs)	L	02-10-12	02-10-12	Тор	63	31			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	854 ft-lbs	11,610 ft-lbs	7.4%	1	01-09-05
End Shear	572 lbs	5,785 lbs	9,9%	. 1	00-11-08
Total Load Deflection	L/999 (0.004")	n\a	:n\a	4	01-08-05
Live Load Deflection	L/999 (0.003")	n\a	n\a	5	01-08-05
Max Defi.	0.004"	n\a	n\a	4	01-08-05
Span / Depth	4.0	•			

Bearing	ı Supports	Dlm. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" × 1-3/4"	1,079 lbs	n\a	25.3%	Hanger
B2	Hanger	2" x 1-3/4"	1,119 lbs	n\a	26,2%	Hanger

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

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.

Hanger Manufacturer: Unassigned

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 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

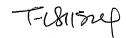
BWG NO. TAM B 41418 H STRUCTURAL COMPONENT ONLY



Disclosure

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PASSED

3RD FLOOR FRAMING\Dropped Beams\B18(I2637)

BC CALC® Member Report

Dry | 1 span | No cant.

July 6, 2018 14:05:35

Bulld 6475

Job name:

Code reports:

Span / Depth

Address:

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

Customer:

CCMC 12472-R

UNIT 1804 CORNER new.mmdl File name:

Wind

Description:

3RD FLOOR FRAMING\Dropped Beams\B18(i2637)

Dead

0.65

18

103

114

114

114 96

72

130

149

149

164

132

Snow

1.00

-55

Wind

Tributary

00-00-00

n\a

n\a

n\a

n\a

n\a

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n\a

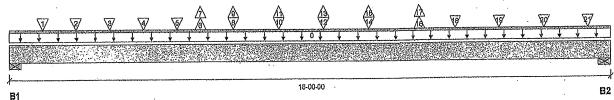
n\a n\a n\a

n\a n\a

n\a n\a n\a n\a n\a

Specifier:

Designer: ΑJ Company:



Total Horizontal Product Length = 18-00-00

Reaction	Summary (Down	/ Uplift) (lbs)
Dooring	Llva	head

Snow 1,162/0 0/55 2,069 / 50 B1, 5-1/2" 0/55 1,190 / 0 2,122 / 50 B2, 5-1/2"

Los	ad Summary						Live
	Description	Load Type	Ref.	Start	End .	Loc.	1.00
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-00-00	Top	•
1	J3(I1298)	Conc. Pt. (lbs)	Γ.	01-00-00	01-00-00	Тор	206
2	J3(11279)	Conc. Pt. (lbs)	L	02-00-00	02-00-00	Top	228
3	J3(11279)	Conc. Pt. (lbs)	L	03-00-00	03-00-00	Top	228
4	J3(I1279)	Conc. Pt. (lbs)	L	04-00-00	04-00-00	Top	228
5	J3(I1280)	Conc. Pt. (lbs)	L	05-00-00	05-00-00	Top	192
6	B23(12146)	Conc. Pt. (lbs)	L	05-08-04	05-08-04	Тор	193
7	B23(i2146)	Conc. Pt. (lbs)	L	05-08-04	05-08-04	•	-29
8	J2(11073)	Conc. Pt. (lbs)	L	06-08-00	06-08-00	Тор	267
9	J2(I1073)	Conc. Pt. (lbs)	L	06-08-00	06-08-00	Top	-9
10	J2(11115)	Conc. Pt. (lbs)	L	08-00-00	08-00-00	Top	308
11	J2(11115)	Conc. Pt. (lbs)	L	08-00-00	08-00-00	Top	
12		Conc. Pt. (lbs)	L.	09-04-00	09-04-00	Top	308
13	J2(i1115)	Conc. Pt. (lbs)	L	09-04-00	09-04-00	qoT	-10
14	J2(11164)	Conc. Pt. (lbs)	L	10-08-00	10-08-00	Тор	335
15	J2(I1164)	Conc. Pt. (lbs)	· L	10-08-00	10-08-00	Top	-11
16	B24(l2137)	Conc. Pt. (lbs)	L	12-02-12	12-02-12	·Top	308
17	B24(I2137)	Conc. Pt. (lbs)	L ·	12-02-12	12-02-12	Тор	-31
18	J3(I1264)	Conc. Pt. (lbs)	L	13-04-00	13-04-00	Top	278
19	J3(11214)	Conc. Pt. (lbs)	L.	14-08-00		Top	304
20	J3(i1214)	Conc. Pt. (lbs)	l,	16-00-00	16-00-00	Top	151-304
21	J3(I1081)	Conc. Pt. (lbs)	L	17-04-00	17-04-00	Top	228
		•	Factored	Dem	and/		

Controls Summary	Factored Demand	Factored Resistance	Demand <i>l</i> Resistance	Case	Location
Pos. Moment	19,947 ft-lbs	55,212 ft-lbs	36.1%	21	09-04-00
End Shear	4,313 lbs	21,696 lbs	19,9%	21	01-05-06
Total Load Deflection	L/403 (0.512")	n\a	59.6%	. 56	09-02-12
Live Load Deflection	L/625 (0.33")	n\a	57.6%	83	09-02-12
Max Defl.	0.512"	n\a	n\a	56	09-02-12
Span / Depth	17.4				

Beari	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Wall/Plate	5-1/2" x 5-1/4"	4,556 lbs 4,670 lbs	19.4% 19.9%	12.9% 13.3%	Unspecified Unspecified	•
B2 -	 Wall/Plate 	5-1/2" x 5-1/4"	4,010 108	18.870	10.070	Onopounda	

BUG NO. TAMB 41418H STRUCTURAL POIL COMPONENT ONLY





BC CALC® Member Report



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

Passed

3RD FLOOR FRAMING\Dropped Beams\B18(I2637)

Dry | 1 span | No cant.

July 6, 2018 14:05:35

Build 6475

Job name:

Address:

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

Code reports:

CCMC 12472-R

File name:

UNIT 1804 CORNER new.mmdl

Description: 3RD FLOOR FRAMING\Dropped Beams\B18(12637)

Specifier: Designer:

Company:

Notes

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

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

Calculations assume unbraced length of Top: 00-03-09, Bottom: 00-03-09.

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 2015 and CSA 086.

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

verification. CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

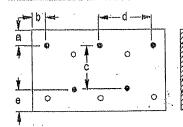
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

Nalling schedule applies to both sides of the member.

Member has no side loads.

Connection Diagram: Full Length of Member



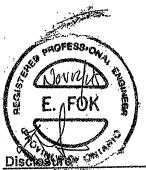
c = @-7/8" a minimum = i" d= 000 /2 b minimum = 3" e minimum = 2"

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.

Member has no side loads.

Nails 2"ARDOX SPIRAL Connectors are: 16d



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STRUCTURAL COMPONENT ONLY BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

Tel SISNO(1)



PASSED

July 6, 2018 14:05:35

3RD FLOOR FRAMING\Flush Beams\B19(12764)

BC CALC® Member Report

Build 6475

Job name:

Customer: Code reports:

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

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1804 CORNER new,mmdl File name:

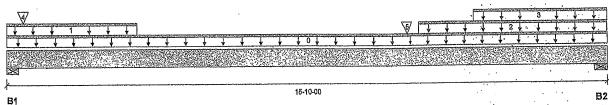
Description: 3RD FLOOR FRAMING\Flush Beams\B19(i2764)

Specifier:

Designer:

ΑJ

Company:



Total Horizontal Product Length = 15-10-00

Reaction Sun	nmary (Down / Up	iiit) (ibs)			
Bearing	Live	Dead	Snow	Wind	
B1, 7"	2,830 / 0	2,742 / 0	1,798 / 0		
B2 5-1/2"	2.355 / 0	1.856 / 0			

Lo	ad Summary							Live	Dead	Snow	Wind	Tributary
Tag	. *	 Load Type	Ref.	Start .	End	Loc.		1.00	0.65	1.00	1.15	
	Self-Welght	 Unf. Lin. (lb/ft)	L	00-00-00	15-10-00	Top			12			.00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	03-05-01	Top	. *		80			n\a
2	Smoothed Load	Unf, Lin, (ib/ft)	L	10-09-14	15-09-14	Top		374	186		•	n\a
3	WALL	Unf, Lin, (lb/ft)	L	12-03-09	15-10-00	Тор			80		`	n\a
4	B20(12670)	Conc. Pt. (lbs)	Ľ.	00-05-04	00-05-04	Top	:	(2,192	1,897	1,798	ノ).	n\a
5	B21(11749)	Conc. Pt. (lbs)	L.	10-05-12	10-05-12	Top		1,126	1,021			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	16,242 ft-lbs	20,414 ft-lbs	79.6%	. 1	10-05-12
End Shear	4,943 lbs	14,464 lbs	34.2%	1	14-04-10
Total Load Deflection	L/453 (0,395")	n\a	53.0%	35	08-08-09
Live Load Deflection	L/849 (0,211")	. n\a ·	42.4%	. 51	08-08-09
Max Defl.	0.395"	n\a	n\a	35	08-08-09
Span / Depth	15.1				

Bearing	g Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material .	
B1	Wall/Plate	7" × 3-1/2"	9,471 lbs	72.4%	31.7%	Unspecified	
В2	Wall/Plate	5-1/2" x 3-1/2"	5,852 lbs	56.9%	24.9%	Unspecified	_

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

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

Calculations assume unbraced length of Top: 09-09-00, Bottom: 09-09-00.

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 2015 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

Concentrated side-load exceeds allowable magnitude for connection design. Please consult a technical representative or Professional Engineer for the design of the connection. OLC WILL MAULAGE

32" PROVIDE 4 ROWS OF 3-1/2" ARDOX SPIRAL NAILS @ 12 " O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 24 LUMBER EDGE / END DISTANCE, DO NOT USE AIR NAILS.

DWOND.TAMB4/6-18 H STRUCTURAL COMPONENT ONLY

CONFORMS TO OBC 2012

Use of the Bolse Carnade Software Is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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 (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

TIRISIL



PASSED

3RD FLOOR FRAMING\Flush Beams\B20(i2670)

BC CALC® Member Report

Dry | 1 span | No cant.

July 6, 2018 14:05:35

Build 6475

Job name:

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

Customer: Code reports:

CCMC 12472-R

UNIT 1804 CORNER new.mmdl

File name: Description: 3RD FLOOR FRAMING\Flush Beams\B20(i2670)

Specifier:

Designer: AJ ·

Company:

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<i>}</i> _		· ·							<u>.</u>		·														<u> </u>												<u></u>		 -	~	
p.	ı																		•	•	18-07	-06	•	٠.		ï.			. :	1						•					B 2

Total Horizontal Product Length = 18-07-06

Reaction Summary (Down / Uplift) (lbs)

Dead Snow Bearing Live 1,897 / 0 2,189/0 1,808 / 0 B1, 2" 880/0 656 / 0 112/0 B2, 4-3/8"

Loa	d Summary					:	Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0,65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	. L	00-00-00	18-07-06	Top		12			00-00-00
1	WALL	Unf, Lin, (lb/ft)	L.	00-00-00	06-03-02	Top		60			n\a
2	FC3 Floor Material	Unf, Lin. (lb/ft)	L	80-80-00	06-00-00	Top	8				n\a
3	FC3 Floor Material	Unf. Lin. (lb/ft)	L,	06-00-00	18-07-06	Top	25	13 -			n\a
4	GIRDER	Conc. Pt. (lbs)	L	01-02-00	01-02-00	Top	880	800	1,920		n\a
5	B22(11429)	Conc. Pt. (lbs)	L	06-01-12	06-01-12	Top	1,826	972			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	22,030 ft-lbs	35,392 ft-lbs	62.2%	1	06-01-12
End Shear	7,358 lbs	14,464 lbs	50.9%	1	01-01-14
Total Load Deflection	L/265 (0.826")	n\a	90,7%	. 35	08-05-15
Live Load Deflection	L/426 (0.513")	n\a ·	84,4%	51	08-03-14
Max Defl.	0,826"	n\a	n\a	35	08-05-15
Span / Depth	18.4		i		

Bea	ring Supports	Dim, (LxW)	Demand	Resistance Support	Resistance Member	Material
B1	Hanger	2" x 3-1/2"	7,462 lbs	n\a	87.4%	Hanger
B2	Wall/Plate	4-3/8" x 3-1/2"	2,252 lbs	27.5%	12.1%	Unspecified



Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

COMPONENT DNLY

T-1811527





3RD FLOOR FRAMING\Flush Beams\B20(i2670)

Dry | 1 span | No cant.

July 6, 2018 14:05:35

PASSED

BC CALC® Member Report **Build 6475**

Job name:

Address:

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

Customer: Code reports: CCMC 12472-R

File name:

UNIT 1804 CORNER new.mmdl

Description:

3RD FLOOR FRAMING\Flush Beams\B20(12670)

Specifier:

Designer:

Company:

Notes

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

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

Calculations assume unbraced length of Top: 00-08-08, Bottom: 00-08-08.

Hanger Manufacturer: Unassigned

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 2015 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

CONFORMS TO OBC 2012

Concentrated side-load exceeds allowable magnitude for connection design. Please consult a technical representative or Professional Engineer for the design of the connection. OK 411 MMUNG

PROVIDE4 ROWS OF 3-1/2" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 24LUMBER EDGE / END DISTANCE. DO NOT USE AIR NAILS.



Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA).
Completeness and accuracy of input
must be reviewed and verified by a
qualified engineer or other appropriate
expert to assure its adequacy, prior to anyone relying on such output as evidence of sultability for a particular application. The output here is 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 (800)232-0788 before installation.

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T-181527(x)





PASSED

3RD FLOOR FRAMING\Flush Beams\B21(i4173)

Dry | 1 span | No cant.

November 8, 2018 11:06:26

Build 6475

Job name:

Address:

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

BC CALC® Member Report

CCMC 12472-R

Customer:

Code reports:

File name:

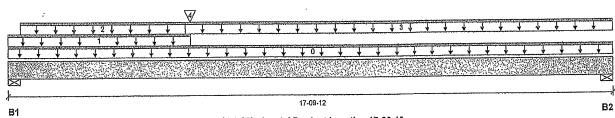
UNIT 1804 CORNER EL B.mmdl

Description: 3RD FLOOR FRAMING\Flush Beams\B21(i4173)

Wind

Specifier:

Designer: Company:



Total Horizontal Product Length = 17-09-12

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 4-3/8"	1,116/0	985 / 0
B2, 4-3/8"	561 / 0	450 / 0

	ad Summary	Land Toma	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1,15	Tributary
Tag	Description	Load Type	VAI'					40			00-00-00
0	Self-Weight	Unf. Lin. (lb/ft)	<u>.</u>	00-00-00	17-09-12	Тор		14			
1	WALL .	Unf, Lin. (lb/ft)	L.	00-00-00	05-04-02	Top		60			n\a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-04-06	05-02-06	Top	10	5			n\a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	1	05-02-06	17-09-12	Top	. 17	8 .			n\a
J	COS FIGOR Marerial		<u>.</u>				1 107	705			n\a
4	B22(l4196)	Conc. Pt. (lbs)	L	05-04-02	05-04-02	Тор	1,407	765			1116

Controls Summary	Factored Demand	Factored Resistance	Demand <i>l</i> Resistance	Case	Location
Pos. Moment	13,061 ft-lbs	35,392 ft-lbs	36.9%	1	05-04-02
End Shear	2,753 lbs	14,464 lbs	19.0%	1	01-04-04
Total Load Deflection	L/495 (0.417")	n\a	48.5%	4	08-01-08
Live Load Deflection	L/860 (0.24")	n\a	41.9%	5	08-01-08
Max Defl.	0.417"	n\a	n\a	4	08-01-08
Span / Depth	17,4				

Rearing	ı Supports	Dim. (LxW)	Domand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" × 3-1/2"	2,905 lbs	44.4%	15.6%	Unspecified
B2	Wall/Plate	4-3/8" × 3-1/2"	1,404 lbs	21.5%	7.5%	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.

GONFORMS TO OBC 2012

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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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.

DWB NO. TAMBY18 = 18 H STRUCTURAL COMPONENT UNLY P6 12

T-1811528





PASSED

3RD FLOOR FRAMING\Flush Beams\B21(i4173)

Dry | 1 span | No cant.

November 8, 2018 11:06:26

BC CALC® Member Report

Build 6475 Job name: Address:

File name:

UNIT 1804 CORNER EL B.mmdl

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

Description: Specifier:

3RD FLOOR FRAMING\Flush Beams\B21(i4173)

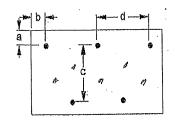
Customer: Code reports:

CCMC 12472-R

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c = 7-7/8"

b minimum = 3"

d = @#

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



Disclosure

Use of the Bolse Cascade Software Is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of sultability for a particular application. The output here is based on application. The output here is 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 (800)232-0788 questions, please call (800)232-0788 before installation.

OWEND . TAN 8418-18H STRUGTURAL COMPONENT ONLY

BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® . BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

Teldy Solly





PASSED

July 6, 2018 14:05:35

3RD FLOOR FRAMING\Flush Beams\B22(i1429)

BC CALC® Member Report

Build 6475

Job name:

Address:

Customer: Code reports:

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

CCMC 12472-R

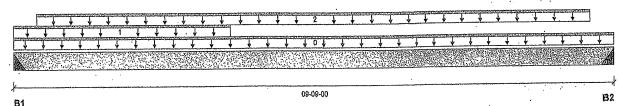
Dry | 1 span | No cant.

UNIT 1804 CORNER new.mmdl File name:

Description: 3RD FLOOR FRAMING\Flush Beams\B22(i1429)

Specifier: Designer:

Company:



Total Horizontal Product Length = 09-09-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead 975/0 B1, 2" 1.832 / 0 B2, 2" 1.282 / 0 700/0

Lo	ad Summary								Live	Dead	Snow	Wind	Tributary
Tag		,		Load Type	Ref.	Start	End :	Loc.	1,00	0.65	1.00	1.15	
0	Self-Weight	ئىسمە،	.,	Unf. Lin. (lb/ft)	L	00-00-00	09-09-00	Top		12			00-00-00
1	STAIR			Unf. Lin. (lb/ft)	· L	00-00-00	03-06-00	Тор	240	120			n\a
2	Smoothed Load			Unf. Lin. (lb/ft)	L.	00-04-08	09-04-08	Top	253	126	-		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	: Location
Pos. Moment	7.821 ft-lbs	35,392 ft-lbs	22.1%	1	03-10-08
End Shear	3,205 lbs	14,464 lbs	22,2%	1	01-01-14
Total Load Deflection	L/999 (0.094")	n\a	n\a	4	04-09-00
Live Load Deflection	L/999 (0.061")	n\a	n\a.	5	04-09-00
Max Defl.	0.094"	n\a	n\a	4 .	04-09-00
Cura / Douth	0.6	•			

Béaring	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 3-1/2"	3,967 lbs	n\a	46.4%	Hanger
B2	Hanger	2" x 3-1/2"	2,798 lbs	n\a	32.8%	Hanger

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

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.

Hanger Manufacturer: Unassigned

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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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.

DWG NO. TAM BY 19-18 H STRUCTURAL PS 4 COMPONENT ONLY

T- Using





PASSED

July 6, 2018 14:05:35

3RD FLOOR FRAMING\Flush Beams\B22(i1429)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

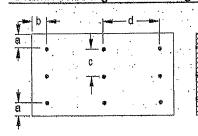
UNIT 1804 CORNER new.mmdl File name:

Description: 3RD FLOOR FRAMING\Flush Beams\B22(i1429)

Specifier: Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c = 4"

d = 💯 b minimum = 3"

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: 16d / Nalls

3-1/2" ARDOX SPIRAL

Disclosure

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BC CALCO, BC FRAMERO, AJSTM, ALLJOISTO, BC RIM BOARD TM, BCIO, BCISE GLULAM TM, BC FloorValueO, BCISE GLULAM TM, BC FloorValueO, VERSA-LAMO, VERSA-RIM PLUSO, COMPONENT ONLY COMPONENT ONLY

T-1811529(N)





PASSED

July 6, 2018 14:05:35

3RD FLOOR FRAMING\Flush Beams\B23(i2146) Dry | 2 spans | L cant.

BC CALC® Member Report

Bulld 6475

Job name:

Address: -

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

Customer:

Code reports:

CCMC 12472-R

UNIT 1804 CORNER new.mmdl

ΑJ

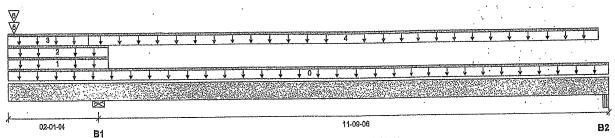
File name:

Description: 3RD FLOOR FRAMING\Flush Beams\B23(I2146)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 13-10-10

Reaction Sun	nmary (Down / U	oim) (ibs)			
Bearing	Live	Dead	Snow	Wind	
B1, 5-1/2"	444 / 0	953 / 0	435 / 0		
B2, 5-1/4"	195 / 28	78 / 0	0 / 51		

las	d Summary					-	Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1,16	00.00.00
0	Self-Weight	Unf. Lin. (lb/ft)	L.	00-00-00	13-10-10	Top		12			00-00-00
1	ROOF	Unf. Lin. (lb/ft)	L	00-00-00	02-04-00	Top	33	30	72		n\a
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	02-04-00	Тор		- 80			n\a
3	FC3 Floor Material	Unf. Lin. (lb/ft)	Ĺ	00-00-00	01-10-08	Top	23	11			n\a
4	FC3 Floor Material	Unf. Lin. (lb/ft)	L	01-10-08	13-08-00	Top	33	17			n/a
5	B25(I2160)	Conc. Pt. (lbs)	Ĺ.	00-01-12	00-01-12	Top	99	378	216		n\a
ø	WALL	Conc. Pt. (lbs)	ī	00-01-12	00-01-12	doT	•	12 ·		•	n\a
О	VVALL	Court is (ina)	144	4001							

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos, Moment	815 ft-lbs	35,392 ft-lbs	2.3%	45	09-02-01
Neg. Moment	-2.515 ft-lbs	-35,392 ft-lbs	7,1%	49	02-01-04
End Shear	284 lbs	14,464 lbs	2.0%	45	12-05-08
Cont. Shear	1,202 lbs	14.464 lbs	8.3%	49.	00-10-10
Total Load Deflection	2xL/1,998 (0.026")	n\a	n\a	122	00-00-00
Live Load Deflection	2xL/1,998 (0.015")	n\a	n\a	174	00-00-00 🥻
Total Neg. Defl.	L/999 (-0.018")	n\a	n\a	122	06-03-12
Max Defl.	-0.018"	n\a	n\a	122	06-03-12
Span / Depth	11.5			·	Marie Contraction of the Contrac

•	•		•	Demand/ Resistance	Demand/ Resistance	• •
Bearing	Supports	Dim. (LxW)	Demand	Support	Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	2,292 lbs	22.3%	9.8%	Unspecified
R2	Ream	5-1/4" x 3-1/2"	391 lbs	2.0%	1.7%	Unspecified

STRUCTURAL COMPONENT ONLY

T-1811530





PASSED

July 6, 2018 14:05:35

3RD FLOOR FRAMING\Flush Beams\B23(i2146)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

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

Customer: Code reports:

Dry | 2 spans | L cant.

UNIT 1804 CORNER new.mmdl File name:

Description: 3RD FLOOR FRAMING\Flush Beams\B23(I2146)

Specifier:

Designer:

Company:

Notes

Design meets User specified (2xL/240) Total load deflection criteria.

Design meets User specified (2xL/360) Live load deflection criteria. Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

CCMC 12472-R

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 2015 and CSA 086.

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

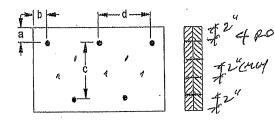
Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends. 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.

Connection Diagram: Full Length of Member



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

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

License Agreement (EULA).

the Bolse Cascade Software Is subject to the terms of the End User Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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 (800)232-0788 before installation.

BUGNO.TAM BY 18 // BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

T-C81(530(V)



PASSED

July 6, 2018 14:05:35

3RD FLOOR FRAMING\Flush Beams\B24(i2137)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

Dry | 2 spans | L cant.

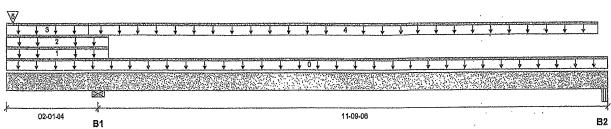
File name: UNIT 1804 CORNER new.mmdl

Description: 3RD FLOOR FRAMING\Flush Beams\B24(i2137)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 13-10-10

Reaction Summary (Down / Uplift) (lbs)

CCMC 12472-R

TOROGOTI GOTTITICA	y (womin opinic) i	(•~~)		
Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	586 / 0	1,011 / 0	435 / 0	
B2, 5-1/4"	313 / 30	138 / 0	0/51	

Loa	ad Summary			4			Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1,00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-10-10	Тор		12			00-00-00
1	ROOF	Unf. Lin. (lb/ft)	L	00-00-00	02-04-00	Тор	33	30	72		n\a
2	WALL	Unf. Lin. (lb/ft)	L.	00-00-00	02-04-00	Top	•	80			n\a
3	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-10-08	Top	34	17			· n\a
4	FC3 Floor Material	Unf. Lin. (lb/ft)	L,	01-10-08	13-08-00	Тор	53	27			n\a
5	B25(j2160)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Тор	99	378	216		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,486 ft-lbs	35,392 ft-lbs	4.2%	45	08-08-15
Neg. Moment	-2,529 ft-lbs	-35,392 ft-lbs	7.1%	49	02-01-04
End Shear	483 lbs	14,464 lbs	3.3%	45	12-05-08
Cont. Shear	1,205 lbs	14,464 lbs	8,3%	49	00-10-10
Total Load Deflection	2xL/1,998 (0.024")	n\a	n\a	122	00-00-00
Live Load Deflection	L/999 (0.021")	n\a	n\a	160	07-08-15 🖋
Total Neg. Defl.	(./999 (-0.015")	n\a	n\a	122	06-00-05
Max Defl.	0.021"	n\a	n\a	108	08-03-12
Span / Depth	11.5				i ii
					#

Bearing	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	2,578 lbs	25,1%	11.0%	Unspecified
B2	Beam	5-1/4" x 3-1/2"	641 lbs	3,2%	2.9%	Unspecified

DWG NO. TAM GYNTA 18H STRUGTURAL PERE COMPONENT ONLY

T-181183





PASSED

3RD FLOOR FRAMING\Flush Beams\B24(i2137)

BC CALC® Member Report

Dry | 2 spans | L cant.

July 6, 2018 14:05:35

Build 6475

Job name:

Customer:

Code reports:

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

CCMC 12472-R

UNIT 1804 CORNER new.mmdl File name:

Description: 3RD FLOOR FRAMING\Flush Beams\B24(i2137)

Specifier: Designer:

Company:

Notes

Design meets User specified (2xL/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 2015 and CSA 086.

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

Design based on Dry Service Condition.

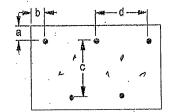
Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends. 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.

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" c = 7-7/8" 4 6

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:

Disclosure

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STRUCTURAL

COMPONENT ORLY

BC CALC®, BC FRAMER® , AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





PASSED

July 6, 2018 14:05:35

3RD FLOOR FRAMING/Flush Beams/B25(I2160)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

UNIT 1804 CORNER new.mmdl

Description: 3RD FLOOR FRAMING\Flush Beams\B25(i2160)

Specifier:

Designer:

Company:

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<i>-</i>			 				·····											08.0	3 00	······						 											

Total Horizontal Product Length = 06-03-00

Commonwer / Dasses / Haliff / Iha

rteaction out	nmary (Down / G	hind (ins)		
Bearing	Live	Dead	Snow	Wind
B1, 2"	99 / 0	378 / 0	216/0	
B2, 2"	99 / 0	378 / 0	216/0	

Lo	ad Summary	•					Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	-1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-03-00	Тор		12			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	06-03-00	Тор	•	80			n\a
2	WINDOW	Conc. Pt. (lbs)	L	00-10-08	00-10-08	Top	99	90	216	•	n∖a
3	WINDOW	Conc. Pt. (lbs)	L	05-04-08	05-04-08	Тор	99	90	216		n\a

Controls Summary	Factored Demand	Pactored Resistance	Demand/ Rosistance	Case	Location
Pos. Moment	685 ft-lbs	23,005 ft-lbs	3.0%	0	03-01-08
End Shear	610 lbs .	14,464 lbs	4.2%	13	01-01-14
Total Load Deflection	L/999 (0.005")	n\a	n∖a ·	35	03-01-08
Live Load Deflection	L/999 (0.002")	n\a	n\a	51	03-01-08
Max Defl.	0.005"	n\a	n∖a .	35	03-01-08
Snan / Denth	61				

Bearin	ig Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 3-1/2"	895 lbs	n\a	10.5%	Hanger
B2	Hanger	2" x 3-1/2"	895 lbs	. n\a	10.5%	Hanger

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

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.

Hanger Manufacturer: Unassigned

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 2015 and CSA 086.

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

verification.

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

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.

Member has no side loads.

DVO NO. TAMB 422-18 H STRUCTURAL PG 4





PASSED

July 6, 2018 14:05:35

3RD FLOOR FRAMING\Flush Beams\B25(i2160)

BC CALC® Member Report Bulld 6475

Job name:

Address:

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

Code reports:

Customer:

CCMC 12472-R

Dry | 1 span | No cant,

UNIT 1804 CORNER new.mmdl

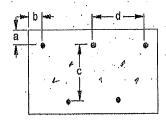
File name: Description: 3RD FLOOR FRAMING\Flush Beams\B25(I2160)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" c = 7-7/8" 12 d = @

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.

Member has no side loads.

Connectors are: 16d Nails

3-1/2" ARDOX SPIRAL



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COMPENENT ONLY

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T-181581(1)



PASSED

July 6, 2018 14:11:08

1ST FLOOR FRAMING\Flush Beams\B7(12969)

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports: Dry | 1 span | No cant.

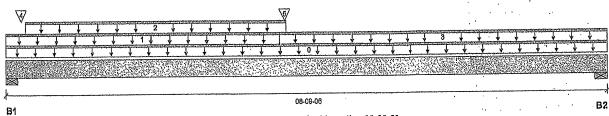
UNIT 1804 CORNER new.mmdl File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B7(i2969)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 08-09-06

Reaction Summary (Down / Uplift) (lbs)

CCMC 12472-R

Dearing		THI A CL	pouu
B1, 3-1/2"	1	941/0	1,280 / 0
B2, 4-3/8"		467/0	262 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Welght	Unf, Lin. (lb/ft)	L	00-00-00	08-09-06	Top		5			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-11-08	Top	15	7			n\a
,	STAIR	Unf, Lln. (lb/ft)	L	00-03-08	04-00-09	Top	240	120			n\a
<u>ب</u>	FC1 Floor Material	Unf. Lin. (lb/ft)	i.	03-11-08	08-09-06	Top	. 27	13			n\a
٠ پ	E12(i199)	Conc. Pt. (lbs)	Ī	00-02-12	00-02-12	Tap		780	:	· .	n\a
4	B8(12926)	Conc. Pt. (lbs)	Ĺ	04-00-06	04-00-06	Top	318	175			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3.868 ft-lbs	11,610 ft-lbs	33.3%	1	03-11-08
End Shear	1,591 lbs	5,785 lbs	27.5%	1	01-01-00
Total Load Deflection	L/999 (0.122")	n\a	n\a	.4	04-01-04
Live Load Deflection	1/999 (0.079")	n\a·	n\a	5	04-01-04
Max Defl.	0.122"	n\a	n\a	4	04-01-04
Span / Depth	10.4			•	•

Bearing S	unnorts	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
		3-1/2" x 1-3/4"	3,011 lbs	92.1%	40.3%	Unspecified
B2 \M	all/Plate	4-3/8" x 1-3/4"	1.028 lbs	25.1%	11.0%	Unspecified

Notes

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

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

STRUCTURAL COMPENENT ONLY

T. 1811533





PASSED

3RD FLOOR FRAMING\Dropped Beams\B18B(i3488)

Dry | 1 span | No cant.

July 6, 2018 16:06:18

Snow

1.00

-55

-55

Wind

1.15

Tributary

00-00-00 n\a

> n\a n\a

> n\a

n\a

n\a

n\a n\a n\a

n\a n\a

n\a n\a

n\a

n\a n\a n\a n\a n\a n\a

BC CALC® Member Report Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

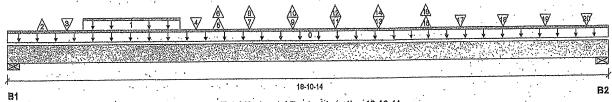
Description:

UNIT 1804 CORNER EL. B.mmdl 3RD FLOOR FRAMING\Dropped Beams\B18B(I3488)

Specifier: Designer:

Wind

Company:



Total Horizontal Product Length = 18-10-14

Reaction Summary (Down / Uplift) (lbs)

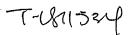
Bearing	Live	Dead	Snow
B1, 4-3/8"	1,958 / 79	1,103 / 0	0 / 52
B2, 5-1/2"	2,208 / 54	1,243 / 0	0/58

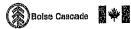
Los	nd Summary						Live	Dead
Tag	•	Load Type	Ref.	Start	End	Loc.	1.00	0.65
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-10-14	Тор		18
1	Smoothed Load	Unf. Lin. (lb/ft)	L	02-04-14	05-04-14	Тор	230	115
2	J3(I3308)	Conc. Pt. (lbs)	L	01-01-04	01-01-04	Тор	-33	-4
3	J3(I3342)	Conc. Pt. (lbs)	L	01-10-14	01-10-14	Тор	206	103
4	J3(l3352)	Conc. Pt. (lbs)	L	05-10-14	05-10-14	Top	192	96
5	B23(I3528)	Conc. Pt. (lbs)	L,	06-07-02	06-07-02	Top	193	72
6	B23(I3528)	Conc. Pt. (lbs)	L	06-07-02	06-07-02	Тор	-29	
.7	J2(13493)	Conc. Pt. (lbs)	L	07-06-14	07-06-14	Top	267	130
8	J2(13493)	Conc. Pt. (lbs)	L.	07-06-14	07-06-14	Тор	-9	
9	J2(i3534)	Conc. Pt. (lbs)	L	08-10-14	08-10-14	Top	308	149
10	J2(13534)	Conc. Pt. (lbs)	L	08-10-14	08-10-14	Top	-10	
11	J2(13497)	Conc. Pt. (lbs)	Ĺ.	10-02-14	10-02-14	Top	308	149
12	J2(13497)	Conc. Pt. (lbs)	Ĺ	10-02-14	10-02-14	Top	-10	
13	J2(13444)	Conc. Pt. (lbs)	L.	11-06-14	11-06-14	Top	335	164
14	J2(13444)	Conc. Pt. (lbs)	L	11-06-14	11-06-14	Top	-11	
15	B24(l3505)	Conc. Pt. (lbs)	L	13-01-10	13-01-10	Top	308	132
16	B24(13505)	Conc. Pt. (lbs)	Ĺ	13-01-10	13-01-10	Top	-31	
17	J3(I3337)	Conc. Pt. (lbs)	Ĺ	14-02-14	14-02-14	Top	278	139
18	J3(13339)	Conc. Pt. (lbs)	Ē	15-06-14	15-06-14	Top	304	152=
19	J3(i3339)	Conc. Pt. (lbs)	Ē	16-10-14		•	304	2520
	, ,	Conc. Pt. (lbs)	Ī	18-02-14	18-02-14	Тор	228	152) 154
20	J3(I3330)	OOHO, I ta (IND)	}	,,, 1 (1 E' Q

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Çase	Location
Pos. Moment	21.787 ft-lbs	55,212 ft-lbs	39.5%	21	08-10-14
End Shear	4,403 lbs	21,696 lbs	20.3%	. 21	17-05-08
Total Load Deflection	L/349 (0.627")	n\a	68.8%	56	09-00-02
Live Load Deflection	L/542 (0,403")	n\a	66.4%	83	09-00-02
Max Defl.	0.627"	n\a	· n\a	56	09-00-02
Snan / Denth	18.4				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 5-1/4"	4,316 lbs	23.1%	15.4%	Unspecified
B2	Wall/Plate	5-1/2" x 5-1/4"	4,866 lbs	20.8%	13.8%	Unspecified

STRUCTURAL COMPONENT ONLY







Passed

July 6, 2018 16:06:18

3RD FLOOR FRAMING\Dropped Beams\B18B(i3488)

BC CALC® Member Report

Bulld 6475

Job name:

Address:

Customer: Code reports:

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

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1804 CORNER EL B.mmdl File name:

Description: 3RD FLOOR FRAMING\Dropped Beams\B18B(i3488)

Specifier:

Designer:

Company:

Notes

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

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

Calculations assume unbraced length of Top: 00-06-05, Bottom: 00-06-05.

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 2015 and CSA 086.

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

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

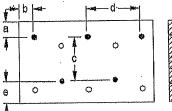
Importance Factor: Normal Part code: Part 9

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.

Member has no side loads.

Connection Diagram: Full Length of Member



a minimum = **2**" b minimum = 3" c = 6-7/8" d = 🕬 e minimum = 34

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.

Member has no side loads.

Connectors are: 16d

3-1/2" ARDOX SPIRAL

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BC CALC®, BC FRAMER® , AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®, COMPONENT ONLY POR

T-C8115346,



PASSED

3RD FLOOR FRAMING\Flush Beams\B19B(i3304)

Dry | 1 span | No cant.

July 6, 2018 16:06:18

BC CALC® Member Report Bulld 6475

Job name:

Address:

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

Customer: Code reports:

B2, 114-1/2"

CCMC 12472-R

UNIT 1804 CORNER EL B.mmdl File name:

Description: 3RD FLOOR FRAMING\Flush Beams\B19B(I3304)

Specifier:

Designer: AJ

Company:

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<u>k</u>	1340	elexenters.	MINICONE?														3,111									<u>:</u>						4
" B1														10	-03-(00										•	•		٠		B	32

Total Horizontal Product Length = 10-03-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing Live Dead B1, 2". 5/0 880/0

918/0

1,920 / 0

100	d Summary							Live	Dead	Snow	Wind	Tributary
l'ag	Description		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	d d	Unf. Lin. (lb/ft)	L	00-00-00	10-03-00	Top		12			00-00-00
1	GIRDER	44 .	Conc. Pt. (lbs)	L.	01-02-00	01-02-00	Top	880	800	1,920		n\a

Controls Summary	Factored Demand	Factored Resistance	.Demand/ Resistance	Case	Location
Pos. Moment	1 ft-lbs	23,005 ft-lbs	n\a.	0	00-05-04
End Shear	5 lbs	9,401 lbs	n\a	0	00-02-00
Span / Depth	0.7			•	
Conc. Load (B2)	4.760 lbs	16,813 lbs	28.3%		

pa .t				Demand/ Resistance	Demand/ Resistance	Material	
Bearing	g Supports	Dim. (LxW)	Demand	Support	Member	CONTRACTOR AND PERSONS AND PER	ښين
B1	Hanger	2" x 3-1/2"	7 lbs	n\a	0.1%	HGUS410	
B2 .	Wall/Plate	114-1/2" x 3-1/2"	4,908 lbs	2.3%	1.0%	Unspecified	

Cautions

Header for the hanger HGUS410 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DE Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

Hanger Manufacturer: Unassigned

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 2015 and CSA 086. Unbalanced snow loads determined from building geometry were used in selected product's

verification.

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor : Normal Part code : Part 9

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.

Member has no side loads.

STRUCTURAL

T-181535





Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 3RD FLOOR FRAMING\Flush Beams\B19B(i3304)

PASSED

Dry | 1 span | No cant.

July 6, 2018 16:06:18

Build 6475

Job namé:

Address:

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

BC CALC® Member Report

Customer:

File name:

UNIT 1804 CORNER EL B.mmdl Description: 3RD FLOOR FRAMING\Flush Beams\B19B(I3304)

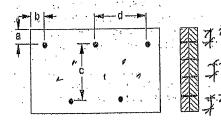
Specifier:

Code reports:

CCMC 12472-R

Designer: Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8" 8" (ﷺ ≃ b

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. Member has no side loads.

Connectors are: 16d - Nails

3-1/2" ARDOX SPIRAL

Use of the Belge Cascade Software Is subject to the terms of the End User Llcense-Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Bolse Cascade 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 (800)232-0788 before installation.

BURNO. TANG 474-18 H ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®, COMPONENT SKLY COMPONENT ONLY

T-1811535(1)





PASSED

3RD FLOOR FRAMING\Flush Beams\B20B(i3309)

BC CALC® Member Report

Dry | 1 span | No cant,

July 6, 2018 16:06:18

Build 6475

Job name: Address:

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

File name:

UNIT 1804 CORNER EL B.mmdl

Description: 3RD FLOOR FRAMING\Flush Beams\B20B(i3309)

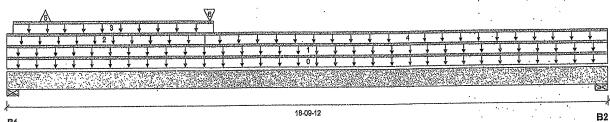
Specifier:

Designer:

Customer: Code reports:

CCMC 12472-R

Company:



· Total Horizontal Product Length = 18-09-12

Reaction Sur	nmary (Down / Upl	ift) (lbs)			
Bearing	Live	Dead	\$now	Wind	
B1, 4-3/8"	1,461 / 245	963 / 0	0/534		
B2, 4-3/8"	885 / 13	626 / 0	0 / 28		

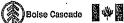
Loi	id Summary					•		Live	Dead	Snov/	Wind:	Tributary
Tag	•	Load Type	Ref.	Start	End	Loc.		1.00	0.65	1,00	1.15	
0	Self-Welght	Unf. Lin. (lb/ft)	L	00-00-00	18-09-12	Тор			12			00-00-00
1	FC3 Floor Material	Unf. Lln. (lb/ft)	L	00-00-00	18-09-12	Тор		8	4			n\a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-02-06	Top .		6	3	• , •		n\a
3	WALL	Unf. Lln. (lb/ft)	L	00-02-06	06-05-08	Top	315	• • •	60			n\a
4	FC3 Floor Material	Unf. Lin. (lb/ft)	L,	06-02-06	18-09-12	Top		20	10			n\a
5	B19(l3304)	Conc. Pt. (lbs)	L	01-02-10	01-02-10	Тор		-258	-248	-562		n\a
6	B22(i3376)	Conc. Pt. (lbs)	L	06-04-02	06-04-02	Тор		1,896	1,010			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	19,772 ft-lbs	35,392 ft-lbs	55.9%	. 21	06-04-02
Neg. Moment	-204 ft-lbs	-35,392 ft-lbs	0.6%	.36	01-02-10
End Shear	3.247 lbs	14,464 lbs	22.5%	21	01-04-04
Total Load Deflection	L/308 (0.71")	n\a	78.0%	56	08-08-05
Live Load Deflection	L/514 (0.425")	n\a	70.1%	-83	08-08-05
Max Defl.	0.71"	n\a	n\a	56	08-08-05
Span / Depth	18.4				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 3-1/2"	3,395 lbs	41.5%	18.2%	Unspecified
Β1	Uplift		179 lbs			
B2	Wall/Plate	4-3/8" x 3-1/2"	2,111 lbs	25.8%	11.3%	Unspecified

Cautions

STRUCTURAL COMPERENT ORLY





PASSED

3RD FLOOR FRAMING\Flush Beams\B20B(i3309)

BC CALC® Member Report

Dry | 1 span | No cant.

July 6, 2018 16:06:18

Build 6475

Job name:

File name:

UNIT 1804 CORNER EL B.mmdl

Address:

Description: 3RD FLOOR FRAMING\Flush Beams\B20B(i3309)

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

Specifier:

Customer:

Designer:

Code reports:

CCMC 12472-R

Company:

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 2015 and CSA 086. Unbalanced snow loads determined from building geometry were used in selected product's

verification.

CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Concentrated side-load exceeds allowable magnitude for connection design. Please consult a technical representative or Professional Engineer for the design of the connection. Ok 47 H MAILING.

PROVIDE 4ROWS OF 3-1/2" ARDOX SPIRAL NAILS @ /2" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 2"LUMBER EDGE / END DISTANCE, DO NOT USE AIR NAILS.

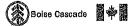


<u>Disclosure</u>

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Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™,
BWG NO.TAM BY LE-18 H ALLJOIST®, BC RIM BOARD™, BCI®,
BOISE GLULAM™, BC FloorValue®,
STRUCTURAL
YERSA-LAM®, VERSA-RIM DI LION COMPONENT ONLY 152

T-1811526(M





2ND FLOOR FRAMING\Flush Beams\B11B(i4102)

Dry | 1 span | No cant.

November 8, 2018 11:06:26

PASSED

BC CALC® Member Report Build 6475

Job name:

Customer:

Code reports:

Address:

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

CCMC 12472-R

File name:

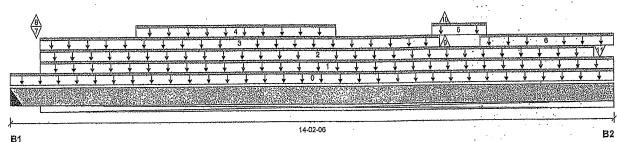
UNIT 1804 CORNER EL B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B11B(i4102)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 14-02-06

Reaction Sum	mary (Down / Op	unt) (ma)		
Bearing	Live	Dead	Snow	Wind
B1, 2"	263 / 1	248 / 0	530 / 0	
B2 161-7/8"	4 485 / 9	4.446 / 0	1.961 / 9	

Los	id Summary						Live	Dead	Snow	Wind	Tributar	y
	· · · · · · · · · · · · · · · · · ·	Load Type	Ref.	Start	End	Loc.	1.00	0,65	1.00	1.15	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-02-06	Тор		10			00-00-00	
1	E19(i871)	Unf. Lin. (lb/ft)	L	00-08-08	14-02-06	Top		81			n\a	а
,	FC2 Floor Material	Unf, Lin, (lb/ft)	L	00-08-08	13-09-00	Top	9	5			n\a	а
3	E19(1871)	Unf. Lin. (lb/ft)	L	00-08-08	10-01-00	Top	9	5			n\a	а
4	E19(1871)	Unf. Lin. (lb/ft)	L	02-11-14	07-07-10	Top	16	24	12		n\a	а
5	E19(i871)	Unf, Lin. (lb/ft)	L	09-10-14	11-02-14	Тор	190	95			n\:	а
6	E19(i871)	Unf. Lin. (lb/ft)	Ĺ	11-00-14	14-02-06	Тор	360	180			n\	а
7	E19(i871)	Conc. Pt. (lbs)	L.	00-07-08	00-07-08	Top	1,171	1,099	2,436		n\	a
8	E19(1871)	Conc. Pt. (lbs)	Ĺ	00-07-08	00-07-08	Top	-4				n\	a
9	E 10(101 1)	Conc. Pt. (lbs)	L	10-02-12	10-02-12	Top	1,129	993	 9		n\	a
10	-	Conc. Pt. (lbs)	Ĺ	10-02-12	10-02-12	Тор	· - 6				n\	a
11	B13(i4051)	Conc. Pt. (lbs)	Ĺ	13-10-12	13-10-12	Тор	751	425			- n\	a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case .	Location
Pos. Moment	704 ft-lbs	23,220 ft-lbs	3.0%	53	00-07-08
End Shear	1,250 lbs	11,571 lbs	10,8%	53	00,-11-08
Total Load Deflection	L/999 (0")	n\a	n\a	116	00-05-12
Live Load Deflection	L/999 (0")	n\a	n\a	168	00-05-12
Max Defl.	0"	n\a	n\a	116	00-05-12
Span / Depth	8,0				
Dist, Load (B2)	1,290,36 lb/ft	57,645.00 lb/ft	2.2%		,
Conc. Load (B2)	2,935 lbs	16,813 lbs	17.5%		

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Hanger	2" x 3-1/2"	1,367 lbs	n\a	16.0%	HGUS410	
B2	Wall/Plate	161-7/8" x 3-1/2"	14,246 lbs	5.9%	2.1%	Unspecified	

Cautions

Header for the hanger HGUS410 at B1 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

OWO NO. TAMB427-10H COMPONENT ONLY PERL

T-L81153)





PASSED

2ND FLOOR FRAMING\Flush Beams\B11B(i4102)

Dry | 1 span | No cant.

November 8, 2018 11:06:26

BC CALC® Member Report

Build 6475 Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

UNIT 1804 CORNER EL B.mmdl

2ND FLOOR FRAMING\Flush Beams\B11B(i4102)

Description:

Specifier:

Designer:

Company:

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.

Hanger Manufacturer: Unassigned

CONFORMS TO OBC 2012

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 2015 and CSA 086.

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

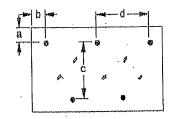
verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

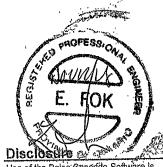
Connection Diagram: Full Length of Member



a minimum = #" b minimum = 3" c = 1/2" d = 6

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:

ARDOX SPIRAL

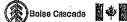


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STRUCTURAL COMPONENT ONLY

BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

T-1811537(,)





PASSED

July 6, 2018 16:06:18

2ND FLOOR FRAMING\Flush Beams\B12B(i3473)

BC CALC® Member Report Build 6475

Job name:

Address:

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

Customer:

Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

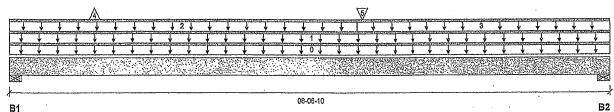
UNIT 1804 CORNER EL B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B12B(i3473)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 08-06-10

Reaction Summary	y (Down / Uplift)	(108)		
Bearing	Live	Dead	Snow ·	Wind
B1, 4-3/8"	332 / 0	201/0		
B2, 2-3/4"	440 / 0	264 / 0		

L.o	ad Summary 🐫 👝						Live	Dead	Snow	Wind	Tributary
		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1,15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-06-10	Тор		10			00-00-00
1	FC2 Floor Material	Unf. Lln. (lb/ft)	L	00-00-00	08-06-10	Top	19	10			n\a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-10-14	Top	6	3			n∖a
.3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	04-10-14	08-06-10	Top	21	10			n\a
- 4	B11B(l3148)	Conc. Pt. (lbs)	L	01-02-10.	01-02-10	Top	The Artist	·-12	45.45	$(x^*A) = \delta$: n\a
5	B16(i3205)	Conc. Pt. (lbs)	L	04-11-12	04-11-12	Top	504	260			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location .
Pos. Moment	2,755 ft-lbs	23,220 ft-lbs	11,9%	1	04-11-12
End Shear	891 lbs	11,571 lbs	7.7%	. 1	07-06-06
Total Load Deflection	L/999 (0.039")	n\a	n\a	. 4	04-06-11
Live Load Deflection	L/999 (0.024")	n\a	. n\a	.5 .	04-06-11
Max Defl.	0,039"	n\a	n\a .	. 4	04-06-11
Span / Depth	10.2	* .			

Beari	ng Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 3-1/2"	749 lbs	9,2%	4.0%	Unspecified
B2	Wall/Plate	2-3/4" x 3-1/2"	991 lbs	19.3%	8.4%	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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

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.





Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLOOR FRAMING\Flush Beams\B12B(i3473)

PASSED

July 6, 2018 16:06:18

BC CALC® Member Report

Build 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1804 CORNER EL B.mmdl

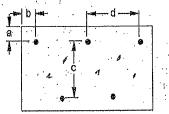
File name: Description: 2ND FLOOR FRAMING\Flush Beams\B12B(i3473)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3" c = \$-1/2" d = 800 6

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. 1

Connectors are:

. ı Nalls

3-1/2" ARDOX SPIRAL



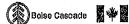
Disclosûre -

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current installation Use of the Bolse Cascade Software is accordance with current Installation Gulde and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

DWANO.TAM & 428-18 H STRUGTURAL PEN COMPONENT BNLY

BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARDTM, BCI®, BOISE GLULAM™, BC FloorValue® , _VERSA-LAM®, VERSA-RIM PLUS® ,

T-1811538(1)





PASSED

1ST FLOOR FRAMING\Flush Beams\B10B(i3541)

BC CALC® Member Report

Dry | 1 span | No cant.

July 6, 2018 16:06:18

Bulld 6475

Job name: Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

UNIT 1804 CORNER EL B.mmdl

Wind

Description: 1ST FLOOR FRAMING\Flush Beams\B10B(i3541)

Specifier:

Designer:

Company:

The second secon	+ + +	+ + + .	↓ ↓ ↓ 2 ↓		 	1 1 1 1
		↓ ↓ ↓	 	 	ŢŢŢŢ	

Total Horizontal Product Length = 14-06-12

Reaction Summary (Down / Uplift) (lbs)

Ligarinan an	HILLIGILY IDONALL LOP	1116 (186)	
Bearing	Live	Dead	Snow
B1, 2"	1,269 / 0	704 / 0	
B2, 2"	673 / 0	406 / 0	

	ad Summary	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow	Wind 1.15	Tributary
Tag		Unf. Lin. (lb/ft)	1/011	00-00-00	14-06-12	Top	<u> </u>	10			00-00-00
υ.	Self-Weight		h					100			ml m
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	03-04-12	Тор -	240	120	•		n\a
2	Smoothed Load	Unf, Lin, (lb/ft)	1	01-08-00	13-08-00	Top	79	40			n\a
3	J6(i3454)	Conc. Pt. (lbs)	L	01-00-00	01-00-00	Top	99	49			n\a
4	J6(I3470)	Conc. Pt. (lbs)	L	14-04-00	14-04-00	Top	74	37			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6,155 ft-lbs	23,220 ft-lbs	26.5%	1	06-04-00
End Shear	2,284 lbs	11,571 lbs	19.7%	. 1	00-11-08
Total Load Deflection	L/523 (0.329")	n\a	45.9%	4	07-00-00
Live Load Deflection	L/831 (0.207")	n\a	43.3%	5	07-00-00
Max Defl.	0.329"	n\a	n\a	. 4	07-00-00
Snan / Denth	18.1			•	

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Hanger	2" x 3-1/2"	2,784 lbs	n\a	32.6%	HGUS410
B2 Hanger	2" x 3-1/2"	1,517 lbs	n\a	17.8%	HGUS410

Header for the hanger HGUS410 at B1 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity,

Header for the hanger HGUS410 at B2 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF,

DWO NO. TAM GARGIBH STRUGTURAL P6 COMPONENT ONLY

T-1811539





1ST FLOOR FRAMING\Flush Beams\B10B(i3541)

Dry | 1 span | No cant.

July 6, 2018 16:06:18

PASSED

BC CALC® Member Report Bulld 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

UNIT 1804 CORNER EL B.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B10B(i3541)

Specifier:

Designer: ΑJ

Company:

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.

Hanger Manufacturer: Unassigned

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 2015 and CSA 086.

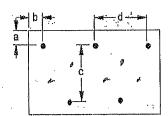
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2013

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.

Connection Diagram: Full Length of Member



a minimum = 2"b minimum = 3"

c = 4-1/2" d=\$6"

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



Use of the Boise Cascade Software Is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is 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 (800)232-0788 before installation.

OVONO. TAM BYLES-10 H STRUCTURAL COMPERENT EXTA

BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

T-US11539())





PASSED

1ST FLOOR FRAMING\Flush Beams\B4B(i3486)

BC CALC® Member Report Build 6475

Dry | 1 span | No cant.

July 6, 2018 16:06:18

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

UNIT 1804 CORNER EL B.mmdl

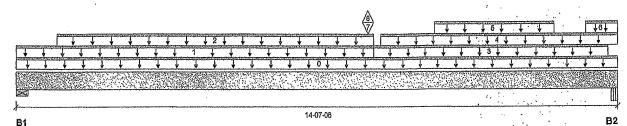
File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B4B(I3486)

Specifier:

Designer: ΑJ

Company:



Total Horizontal Product Length = 14-07-06

Reaction Summary (Down / Uplift) (lbs)

Bearing Dead Snow Live B1, 2-3/8 1,058/3 819/0 1,441/0 B2, 5-1/4" 1,632 / 4

PROVIDE 4ROWS OF 3-1/2" ARDOX SPIRAL NAILS @ 8 " O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN.Z." LUMBER EDGE / END DISTANCE, DO NOT USE AIR NAILS.

Loa	ad Summary				(Till)	124(249)	Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.15	
Ö	Self-Weight	Unf. Lin. (lb/ft)	L.	00-00-00	14-07-06	Top		14			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-07-06	Тор	24	12			n\a
2	FC1 Floor Material	Unf, Lin, (lb/ft)	L	01-00-00	08-07-06	Тор	23	12			n\a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	08-07-06	14-04-12	Top.	- 28	14			n\a
4	3(1192)	Unf, Lin. (lb/ft)	L	08-09-06	14-07-06	Top		81		ı	, n\a
5	3(1192)	Unf. Lin. (lb/ft)	L	10-01-10	13-00-10	Тор	53	21			n\a
6	3(1192)	Unf. Lin. (lb/ft)	L	13-10-02	14-07-06	Top	254	120		The state of the s	n/a
7		Conc. Pt. (lbs)	L	08-05-11	08-05-11	Тор	1,788	1,147	A CONTRACTOR OF THE PARTY OF TH	aGFES	nla nla
8	-	Conc. Pt. (lbs)	L	08-05-11	08-05-11	Тор	- 7		ijte d	la Lo	A Pala

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	17,877 ft-lbs	36,222 ft-lbs	49.4%	1	08-05-10
End Shear	3,800 lbs	17,356 lbs	21.9%	1	13-04-10
Total Load Deflection	L/329 (0.515")	n\a	73.0%	6	07-06-06
Live Load Deflection	L/584 (0.29")	n\a	61.7%	8	07-06-06
Max Defi.	0.515"	n\a	n\a	6	07-06-06
Snan / Denth	17 B				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" x 5-1/4"	2,610 lbs	39.2%	17.2%	Unspecified
B2	Beam	5-1/4" x 5-1/4"	4,250 lbs	14.1%	12.6%	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 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Concentrated side-load exceeds allowable magnitude for connection design. Please consult a technical representative or Professional Engineer for the design of the connection.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

before installation.

building code-accepted design

properties and analysis methods. Installation of Bolse Cascade

engineered wood products must be in

questions, please call (800)232-0788

Guide and applicable building codes. To obtain Installation Guide or ask

accordance with current installation

Disclostre

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DWGNO.TAMB43\$18H STRUCTURAL' COMPONERY ONLY







PASSED

1ST FLOOR FRAMING\Flush Beams\B5B(13476)

BC CALC® Member Report

Dry | 1 span | No cant.

July 6, 2018 16:06:18

Build 6475

Job name: Address:

Customer:

Code reports:

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

CCMC 12472-R

File name:

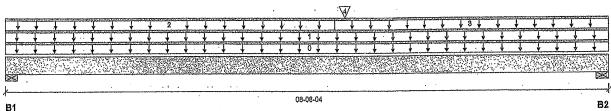
UNIT 1804 CORNER EL B.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B5B(i3476)

Specifier:

Designer:

OUIII	parry.	
	: 4	



Total Horizontal Product Length = 08-08-04

Snow

Reaction Summary (Down / Uplift) (lbs)

LÌve Dead B1, 2-3/8" 645/0 393/0 515/0 B2, 4-3/8" 866 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1,15	•
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-08-04	Top	,,,, ,,	10			00-00-00
1	FC1 Floor Material	Unf, Lin. (lb/ft)	L	00-00-00	08-08-04	Тор	15	8			n\a
2	FC1 Floor Material	Unf, Lin. (lb/ft)	L	00-00-00	04-08-06	Тор	6	3			n\a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	04-08-06	08-08-04	Тор	23	11			n\a
4	B10(13541)	Conc. Pt. (lbs)	L	04-10-02	04-10-02	Top	1,262	700			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6,205 ft-lbs	23,220 ft-lbs	26.7%	1	04-10-02
End Shear	1,837 lbs	11,571 lbs	15.9%	1	07-06-06
Total Load Deflection	L/999 (0.088")	n\a	n\a	4	04-05-09
Live Load Deflection	L/999 (0.055")	n\a	, n\a	5	04-05-09
Max Defl.	0.088"	n\a	n\a	. 4	04-05-09
Span / Depth	10.4				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" x 3-1/2"	1,458 lbs	32.9%	14.4%	Unspecified
B2	Wall/Plate	-4-3/8" x 3-1/2"	1,944 lbs	23.8%	10.4%	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 2015 and CSA 086.

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

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.

STRUCTURAL P612 COMPONENT ONLY

T-181154





PASSED

1ST FLOOR FRAMING\Flush Beams\B5B(i3476)

Dry | 1 span | No cant.

July 6, 2018 16:06:18

BC CALC® Member Report Bulld 6475

Job name:

Address:

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

Customer: Code reports:

CCMC 12472-R

File name:

UNIT 1804 CORNER EL B.mmdl

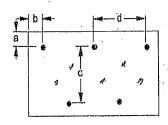
Description: 1ST FLOOR FRAMING\Flush Beams\B5B(i3476)

Specifier:

Designer: ΑJ

Company:

Connection Diagram: Full Length of Member



a minimum = 🛊 " b minimum = 3"

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: 16d / Nalls

3-1/2" ARDOX SPIRAL



Disclosure

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STRUCTURAL COMPONERT BELY BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

T-1811541 (2)



Maximum Floor Spans







			Bare				1/2" Gypsum Ceiling					
	Series		On Centr	e Spacing			· On Centre Spacing					
Depth	Delles	12"	16"	19.2"	24"	12"	16"	19.2"	24"			
<u> </u>	NI-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14'-8"	14'-2"	N/A			
	NI-20 NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A			
/n!!	NI-40X NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A			
9-1/2"	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A			
	NI-70 NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A			
	NI-20	16'-11"	16'-0"	15'-S"	N/A	17'-6"	16'-6"	16'-0"	N/A			
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11''	N/A			
		18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A			
11-7/8"	NI-60	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A			
	NI-70	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11"	N/A			
	NI-80 NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A			
	NI-90X NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19¹-4¹°	18'-6"	N/A			
	•	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A			
	NI-60	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A			
14"	NI-70	21-7	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A			
	NI-80	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A			
	· NI-90x	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A			
	NI-60	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A			
16"	NI-70	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A			
2.0	NI-80	25-11 24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22 ^r -4 ⁿ	N/A			
	NI-90x	24-0	46.7									

			Mid-Span	Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling On Centre Spacing				
	Series		On Centre						
Depth	Seites .	12"	16"	19.2"	24"	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
n 4 /2//	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	N/A
9-1/2"	NI-70	19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	·N/A
	NI-70 NI-80	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"	17'-8"	N/A
		19'-6"	18'-1"	17'-3"	N/A	19'-11"	18'-3"	17'-3"	N/A
	NI-20 NI-40x	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A
		21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-6"	N/A
11-7/8"	NI-60	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	NI-70	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
	NI-80	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-90x	23'-7"	21'-11"	20'-11"	N/A	24'-3"	22'-7"	21'-7"	N/A
	NI-40x	24'-0"	22'-3"	21'-3"	N/A	24'-8"	22'-11"	21'-11"	N/A
	NI-60	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-11"	N/A
14"	NI-70	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-80	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
	NI-90x	26'-5"	24'-6"	23'-4"	N/A	27'-2"	25'-3"	24'-2"	N/A
	NI-60	26 <i>-</i> 5 27'-9"	25'+8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
16"	NI-70		26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
ΤO	NI-80	28'-2" 29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A
	NI-90x	29-0	20 -10	23.7					14/15

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The 1. Maximum clear appart appared to 1.5 psi. 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, a live load deflection limit of L/480 and a total load deflection limit of L/240.

a liveload denection limit of 5 4 5 6 inch for a joist 2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist 2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist 2. 2. Spans are used on a composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Spacing of 13.2 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. 3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

^{5.} Millimum dearing renger shall be a difference of the properties 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.

^{4.} Dearing Surface of the Control of based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, 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 6. Justs shan be laterally appeared to the state of the s



Maximum Floor Spans

Live Load = 40 psf; Pead Load = 90 psf Simple Spans, L/480 peffection Limit 5/8" OSB G&N Sheathing,







			Ba	are	1/2" Gypsum Ceiling On Centre Spacing				
Depth	Series		On Centr	e Spacing					
,		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
9-1/2"	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15 '-1 0"	N/A
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A
	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	1.7'-8"	17'-1"	N/A
11-7/8"	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11"	N/A
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A
	N1-40x	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"	19¹-7"	18'-9"	N/A
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19' - 8"	N/A
	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'-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
4.011	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22:-5"	21'-5"	N/A
16"	NI-80	23'-11"	22'-1"	21'-1"	N/A	24-8"	22'-10"	21'-9"	N/A
•	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A

			Mīd-Spar	Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling On Centre Spacing				
Depth	Series		On Centr	e Spacing					
Dup ur		12 ⁿ	16"	19.2"	24"	12"	16°	19.2"	24"
	NI-20	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	17'-9"	16'-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
J = 1 =	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"	16'-9"	N/A
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"	17'-1"	N/A
	NI-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	16'-0"	N/A
	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	21'-8"	19'-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	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-5"	N/A
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-5"	19'-6"	N/A	24'-1"	21 ¹ -5 ⁿ	19'-6"	N/A
	NI-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"	21'-0"	N/A
14"	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-9"	N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"	23'-4"	N/A
	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
16"	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

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

a live load deflection limits of 3, 35 and 3 states and 5 stand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist 2. Spans are pased on a composite not with global hand or transfer of the passage of 19.2 inches or less. The composite floor may include 1/2 inch gypora celling and one row of blocking at mid-span with strapping. Spacing of 12.2 minites of 1835. The component new may mease a 2 mining 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.

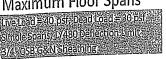
^{4.} Dealing Surfaces are not required to inlingers.

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 O86-09, 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-L274C.



Maximum Floor Spans









			Ba	are	1/2" Gypsum Ceiling On Centre Spacing				
Denth	Series		On Centr	e Spacing					
Depth	54.142	.12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"
0.4/2"	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"
	N1-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	15'-10"
	NI-20	17'-10"	16'-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"
	NJ-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-1"
11-7/8"	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
•	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	17'-5"	22'-1"	20'-6"	19'-6"	17'-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"-9"
14"	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90x	24'-1"	22'-3"	21'-2"	20"-0"	24'-8"	22'-10"	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"	2:2'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
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'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

			Mid-Span	Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling				
0 s lb	Series .		On Centro	e Spacing	L	On Cente	e Spacing		
Depth	Julius .	12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1" ·	13'-11"
0.41211	NI-60	18'-1"	16'-5"	15'-5"	14'-3"	18'-1"	16'-5"	15'-5"	14'-3"
9-1/2"	NI-70	19'-10"	17'-11"	16'-9"	15'-6"	19'-10"	17'-11"	16'-9"	15'-6"
	MI-80 ·	20'-2"	18'-3"	17'-1"	15'-10"	20'-2"	18'-3"	17'-1"	15'-10"
	NI-20	18'-10"	17'-1"	16'-0"	14'-10"	18'-10"	17'-1"	16'-0"	14'-10"
	NI-40x	21'-3"	19'-3"	17'-9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10"
	NI-40X	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
11-7/8"	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
•	NI-80	23'-7"	21'-10"	20'-5"	18'-11"	24'-1"	21'-10"	20'-5"	18'-11"
	NI-90x	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7" ·	21'-3"	19'-7"
	NI-30X	24'-2"	21'-5"	19'-6"	17'-5"	24'-2"	21'-5"	19'-6"	17'-5"
	NI-60	24'-9"	22'-5"	21'-0"	19'-6"	24'-9"	22'-5"	21'-0"	19'-6"
	NI-70	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22'-9"	21'-0"
14"	NI-80	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"
•	NI-90x	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"
		27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
	NI-60 NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
16"	• • • • •	29'-1"	27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10"
	NI-80 NI-90x	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10"

- 1. Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The 1. Maximum clear sport approach to 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, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- a live load denection limit of 3-30 and a control of the stand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist 2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist 2. Spans are pased 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 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.
- 3. Minimum bearing length shall be 1-3/4 inches for the end bearings.
- 3. Minimum Dearing Stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- 4. bearing surfaces as a contract of the second surface of the sec based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and 08C 2012.
- uased on the 632 of the Company of t o. Juists shall be lettering opportunition details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



NI-90x







			Ba	ıre	1/2" Gypsum Ceiling On Centre Spacing				
	Cortos		On Centr	e Spacing					
Depth	Series	12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NII 20	15'-10"	15'-0"	14'-5"	13'-5"	· 16'-4"	15'-5"	14'-6"	13'-5"
	NI-20	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"
	NI-40x	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"
9-1/2"	NI-60	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"
	NI-70	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
	NI-80	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"
	NI-20	17 -10 19'-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-40x	19-4 19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
11-7/8"	NI-60	19 <i>-1</i> 20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
11-7/0	NI-70		19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-80	21'-1"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-90x	21'-8"	19 ^r -10 ^r	18'-11"	17'-11"	22'-1"	20'-6"	19*-7"	18'-7"
	NI-40x	21'-5"	20'-2"	19'-3"	18'-2"	22"-5"	20'-10"	19'-11"	18'-10"
	NI-60	21'-10"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"
14"	NI-70	23'-0"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-80	23'-5"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21*-9"	20-7"
	NI-90x	24'-1"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21*-8**	20'-6"
	NI-60	23'-9"	22-0 23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
	NI-70	25'-1"		22'-4"	21-2"	26'-1"	24'-2"	23'-1"	21'-10"
16"	NI-80	25'-6"	23'-6"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"
	NI-90x	26'-4"	24'-3"	72 -T	21-10	1 20 22	LT 1.1	23.0	44-7

			Mid-Span	Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling					
	Carioc .		On Centre	a Spacing		On Centre Spacing				
Depth	Series	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"	
		18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"	
	NI-40x	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"	
9-1/2"	NI-60	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17'-10"	16'-7"	
	NI-70	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10	
	NI-80	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"	
	NI-20	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"	
	NI-40x	22'-1"	20'-7"	19'-7"	18 ⁷ -4"	22'-8"	20'-10"	19'-8"	18'-4"	
11-7/8"	NI-60	23'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"	21'-2"	19'-9"	
11-110	NI-70	23'-7"	21'-11"	20'-11"	19'-9"	24'-1" ·	22'-6"	21'-5"	20'-0"	
	NI-80	25 -7 24'-3"	22'-6"	21'-6"	20'-4"	24'-8"	23'-0"	22'-0"	20'-9"	
	NI-90x	24'-5"	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"	
	NI-40x	24 -5 24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10'	
	NI-60	24'-10 26'-1"	24'-3"	23'-2"	21'-10"	26'-8"	24'-11"	23'-9"	22'-4"	
14"	NI-70		24'-7"	23'-5"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"	
	NI-80	26'-6"	25'-4"	24'-1"	22'-9"	27'-9"	25'-11"	24'-8"	23'-4"	
	NI-90x	. 27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	24'-9"	23'-1"	
	NI-60	27'-3"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"	26'-1"	24'-8"	
a CII	NI-70	28'-8"	20 <i>-</i> 0"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"	
16"	NI-80	29'-1"	27'-10"	25'-6"	25'-0"	30'-6"	28'-5"	27'-2"	25'-8"	
	NI-90x	29'-11"	71-10	20-0	25 0					

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The 1. Maximum clear span approach to 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, a live load deflection limit of L/480 and a total load deflection limit of L/240.

a live load denection limit of 19 to 2000. A local limit of 19 to 2000 a local limit of 19 to 2000 and 19 to 2000 a local limit of 19 to 2000 and 19 to 2000 a local limit of 19 to 2000 and 19 to 2000 a 2. Spans are pased 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 inches or less. The composite floor may include 1/2 inch gypsum celling and/or one row of blocking at mid-span with strapping. spacing of 24 inches of least find 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.

^{3.} Minimum bearing length shall be 1-3/4 inches for the end bearings. 3. Willimmul Dealing length should be a light should be a light should be sh

^{4.} Bearing Sundings are not required for nangers.

5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required. based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and 0BC 2012.

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