

Architectural floor plan of a building, showing structural details, dimensions, and annotations. The plan includes a large rectangular area with a diagonal cross-section line, and a smaller section on the right with a curved roofline. Dimensions are provided in feet and inches (e.g., 33'-10"-00, 7'-06"-00, 5'-00"-00, 6'-00"-00, 11'-10"-00, 13'-10"-00, 16'-09"-00, 2'-04"-00, 4'-11"-00, 18'-04"-00, 11'-06"-00, 4'-00"-00). Annotations include "SU Blocking @24" o/c max and around windows (typ.)", "W/Median blocking & 1x4 strap applied to underside of post at blocking line", "steel beam", "J1", "J2", "J3", "J4", "J5", "J6", "J7", "J8", "J9", "J10", "J11", "J12", "J13", "J14(OJ)", "J14(OJ)", "J15", "J16", "J17", "J18", "J19", "J20", "J21", "J22", "J23", "J24", "J25", "J26", "J27", "J28", "J29", "J30", "J31", "J32", "J33", "J34", "J35", "J36", "J37", "J38", "J39", "J40", "J41", "J42", "J43", "J44", "J45", "J46", "J47", "J48", "J49", "J50", "J51", "J52", "J53", "J54", "J55", "J56", "J57", "J58", "J59", "J60", "J61", "J62", "J63", "J64", "J65", "J66", "J67", "J68", "J69", "J70", "J71", "J72", "J73", "J74", "J75", "J76", "J77", "J78", "J79", "J80", "J81", "J82", "J83", "J84", "J85", "J86", "J87", "J88", "J89", "J90", "J91", "J92", "J93", "J94", "J95", "J96", "J97", "J98", "J99", "J100", "J101", "J102", "J103", "J104", "J105", "J106", "J107", "J108", "J109", "J110", "J111", "J112", "J113", "J114", "J115", 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APP - AS PER PLAN
BBO - BEAM BY OTHERS

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

1-1/8" X 9 1/2" O.S.B

HÄNGERS SCHEDULE

H1-----LT259

H3-----HUS1.81/10

1000

1-2x6 SPF#2 Squash Blk

1

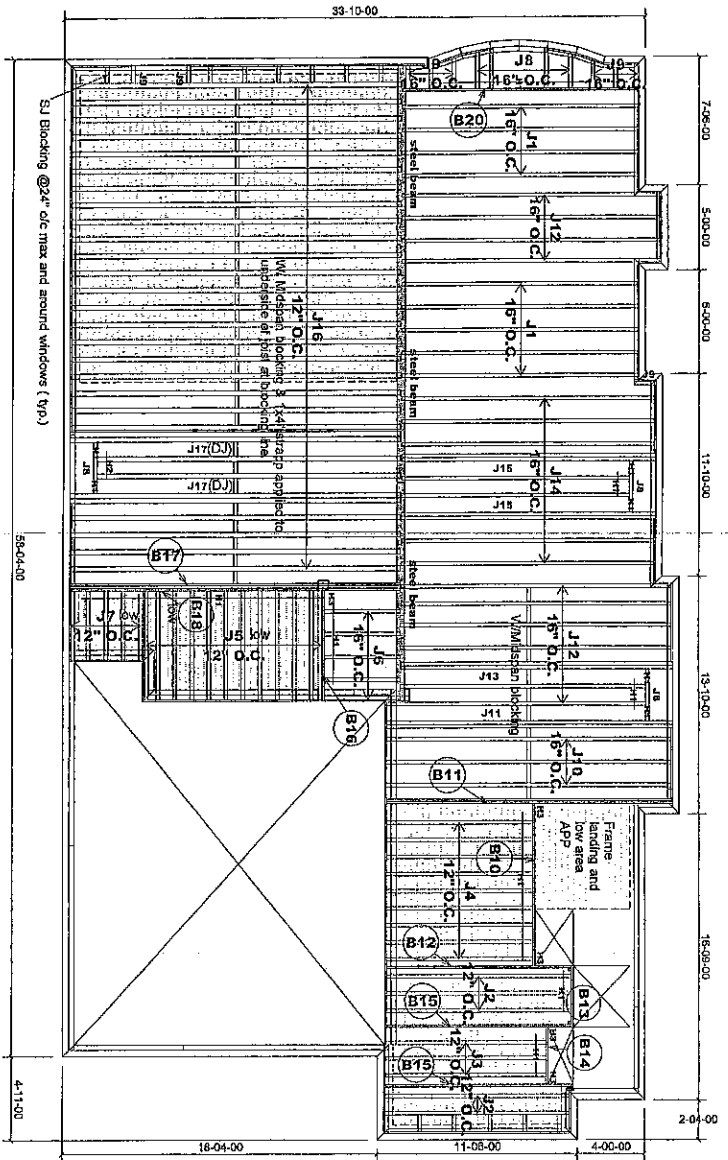
loads

Joists spacing under cert

Ceramic tiles application

Salespers

NT 31101



MODEL : 42-5
ELEVATION B CORNER UPGRADE
STANDARD GROUND FLOOR
W/SUNKEN MIDROOM

REVISION			
NO	DATE	FL NO	
253787	91669		
1			
2			

FIRST FLOOR FRAMING

Do not scale - refer to architectural plans for dimensions

Product	Product	Piles	Net Qty
J1	14-00-00 8 1/2" N1-20	1	5
J2	11-00-00 9 1/2" N1-20	1	3
J3	10-00-00 9 1/2" N1-20	1	3
J4	9-00-00 9 1/2" N1-20	1	3
J5	7-00-00 9 1/2" N1-20	1	12
J6	5-00-00 9 1/2" N1-20	1	5
J7	4-00-00 9 1/2" N1-20	1	5
J8	3-00-00 9 1/2" N1-20	1	9
J9	2-00-00 9 1/2" N1-20	1	3
J10	17-00-00 9 1/2" N1-40x	1	2
J11	17-00-00 9 1/2" N1-40x	1	10
J12	16-00-00 9 1/2" N1-40x	1	2
J13	16-00-00 9 1/2" N1-40x	1	2
J14	15-00-00 9 1/2" N1-40x	1	7
J15	15-00-00 9 1/2" N1-40x	1	4
J16	20-00-00 9 1/2" N1-80	1	27
J17	20-00-00 9 1/2" N1-80	1	4
B17	20-00-00 VERSALAM-10-20E	3	3
B11	17-00-00 VERSALAM-10-20E	2	2
B18	15-00-00 VERSALAM-10-20E	2	2
B20	14-00-00 VERSALAM-10-20E	1	1
B12	11-00-00 VERSALAM-10-20E	1	1
B15	11-00-00 VERSALAM-10-20E	1	2
B10	10-00-00 VERSALAM-10-20E	1	1
B16	7-00-00 VERSALAM-10-20E	1	1
B13	4-00-00 VERSALAM-10-20E	1	1
B14	4-00-00 VERSALAM-10-20E	1	1

9 1/2" BLOCKING 64 LF

APP - AS PER PLAN
BBO - BEAM BY OTHERS

SUBFLOOR - 5/8" NAILED & GLUED
RIMBOARD

1-1/8" X 9 1/2" O.S.B

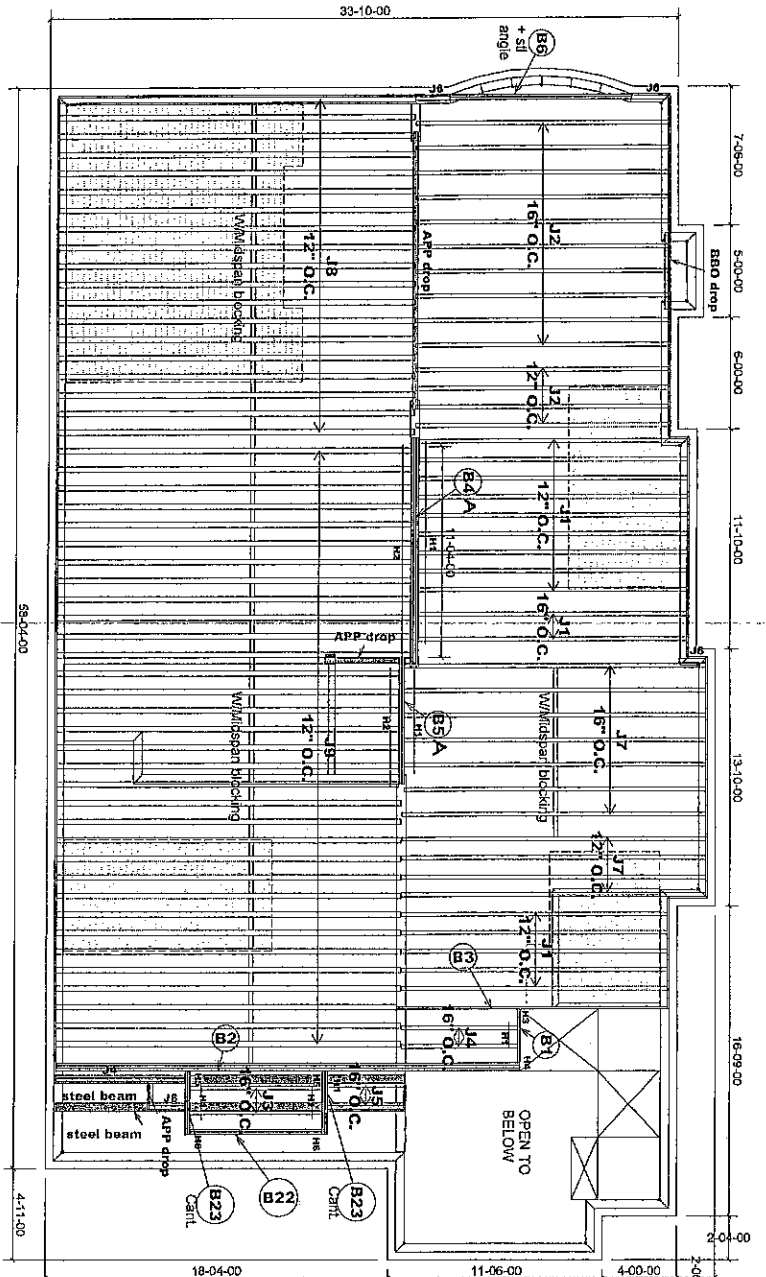
FRANGERS SCHEDULE

H1	L7259
H2	L7339
H3	HUST181/10



1-2x6 SPF#2 Squash Block req'd on one side of joists under interior load bearing wall
Multiple squash blocks are required under concentrated loads
Joists spacing under ceramic tile is 12" o/c
Ceramic tiles application is as per O.B.C. 9.30.6

JT/PL: 40297/91669 Builder: Gold Park Homes Location: Kleinburg
 Lt: 280703 Project: Huntington & Nashville Date: April 11/17 Designer: LA
 Sheet: 2 of 3 Alpha Roof Trusses Inc. Salesperson: Derek
 Maple, Ontario Home Lumber



MODEL : 425
ELEVATION B CORNER UPGRADE
STANDARD GROUND FLOOR
STANDARD SECOND FLOOR

SECOND FLOOR FRAMING

REVISION		
NO	DATE	PL. NO.
253/87	91669	
1		
2		

Do not scale - refer to architectural plans for dimensions

JT/PL: 40297/91669
LI: 280703

Builder: Gold Park Homes
Kleinburg Glen
Project: Huntington & Nashville
Date: April 11/17

Location: Kleinburg
Designer: LA
Date: April 11/17
Sheet: 3 of 3

Alpa Roof Trusses Inc.
Maple, Ontario
Salesperson: Derek
Home Lumber

Product	Length	Product	Piles	Net Qty
J1	15'-00-00	9 1/2" NI-20	1	16
J2	14'-00-00	9 1/2" NI-20	1	14
J3	8'-00-00	9 1/2" NI-20	1	2
J4	7'-00-00	9 1/2" NI-20	1	3
J5	5'-00-00	9 1/2" NI-20	1	2
J6	2'-00-00	9 1/2" NI-20	1	4
J7	17'-00-00	9 1/2" NI-40x	1	11
J8	20'-00-00	9 1/2" NI-80	1	19
J9	19'-00-00	9 1/2" NI-80	1	33
B2	25'-00-00	VERSALAM-10 2.0E	3	3
B3	15'-00-00	VERSALAM-10 2.0E	1	1
B4A	13'-00-00	VERSALAM-10 2.0E	3	3
B6	10'-00-00	VERSALAM-10 2.0E	2	2
B22	8'-00-00	VERSALAM-10 2.0E	2	2
B5A	7'-00-00	VERSALAM-10 2.0E	2	2
B23	4'-00-00	VERSALAM-10 2.0E	2	4
B1	3'-00-00	VERSALAM-10 2.0E	1	1

9 1/2" BLOCKING 64 LF

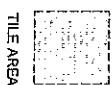
APP - AS PER PLAN
BBO - BEAM BY OTHERS

SUBFLOOR - 5/8" NAILED & GLUED
RIMBOARD

1-1/8" X 9 1/2" O.S.B

HANGERS SCHEDULE

H1	LT259
H2	LT359
H3	HUS1.87/10
H4	HUGX
H5	HGUS410
H6	HUC410



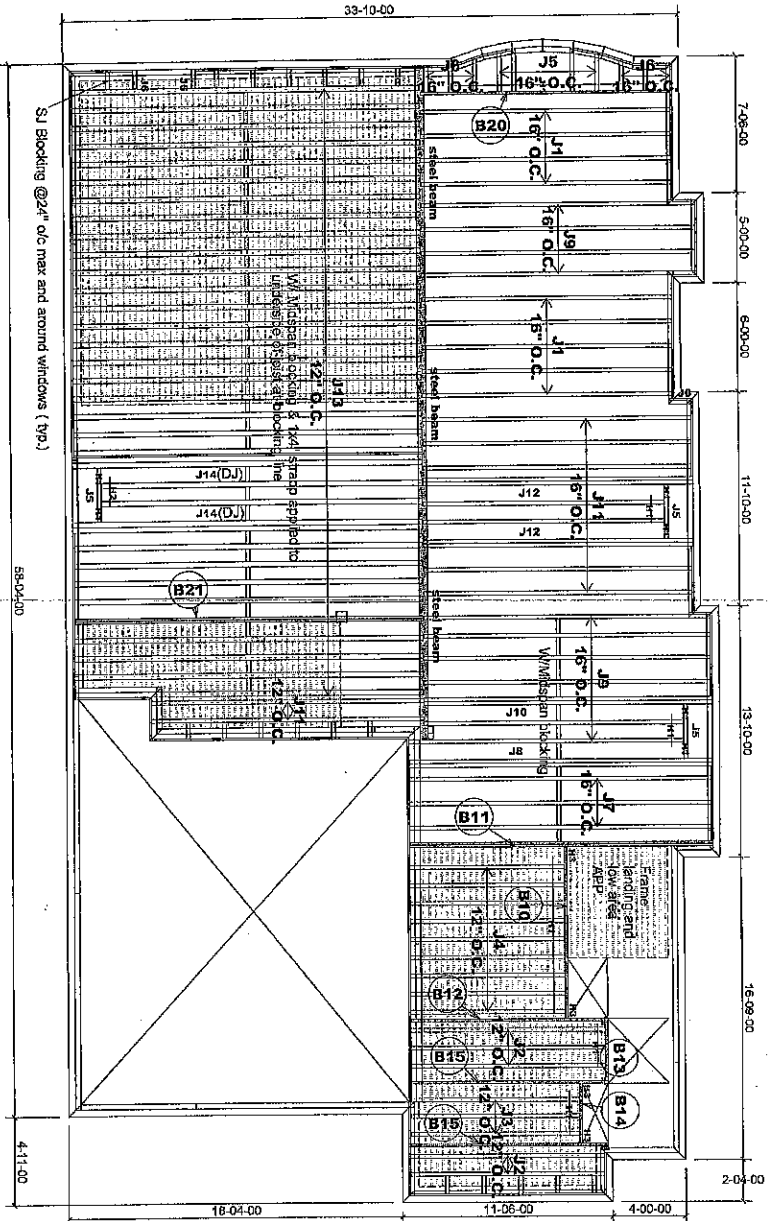
1-2x6 SPF#2 Squash Block req'd on one side of joist under interior load bearing wall

Multiple squash blocks are required under concentrated loads

Joists spacing under ceramic tile is 12" o/c

Ceramic tiles application is as per O.B.C. 9.30.6

Provide L-Joist Blocking between cantilevered L-Joist (along bearing) and rimboard closure at ends



Products				
Pile ID	Length	Product	Piles	Net Qty
J1	14'-00"-00	9 1/2" N-20	1	5
J2	11'-00"-00	9 1/2" N-20	1	3
J3	10'-00"-00	9 1/2" N-20	1	3
J4	9'-00"-00	9 1/2" N-20	1	3
J5	3'-00"-00	9 1/2" N-20	1	7
J6	2'-00"-00	9 1/2" N-20	1	9
J7	17'-00"-00	9 1/2" N-40x	1	3
J8	17'-00"-00	9 1/2" N-40x	2	2
J9	16'-00"-00	9 1/2" N-40x	1	10
J10	16'-00"-00	9 1/2" N-40x	2	2
J11	15'-00"-00	9 1/2" N-40x	1	9
J12	15'-00"-00	9 1/2" N-40x	2	4
J13	20'-00"-00	9 1/2" N-80	1	31
J14	20'-00"-00	9 1/2" N-80	2	4
B21	20'-00"-00	VERSALAM-10.2.0E	2	2
B11	17'-00"-00	VERSALAM-10.2.0E	2	2
B20	14'-00"-00	VERSALAM-10.2.0E	1	1
B12	11'-00"-00	VERSALAM-10.2.0E	1	1
B15	11'-00"-00	VERSALAM-10.2.0E	1	2
B10	10'-00"-00	VERSALAM-10.2.0E	1	1
B13	4'-00"-00	VERSALAM-10.2.0E	1	1
B14	4'-00"-00	VERSALAM-10.2.0E	1	1

9 1/2" BLOCKING 74 LF

APP - AS PER PLAN
BBO - BEAM BY OTHERS

SUBFLOOR - 5/8" NAILED & GLUED
RIMBOARD
1-1/8" X 9 1/2" O.S.B

HANGERS SCHEDULE

H1-----L7259
H2-----L7359
H3-----HUST1871/10

TILE AREA
17259
17359
HUST1871/10

1-2x6 SPF#2 Squash Block, req'd on one side of joists under interior load bearing wall

Multiple squash blocks are required under concentrated loads

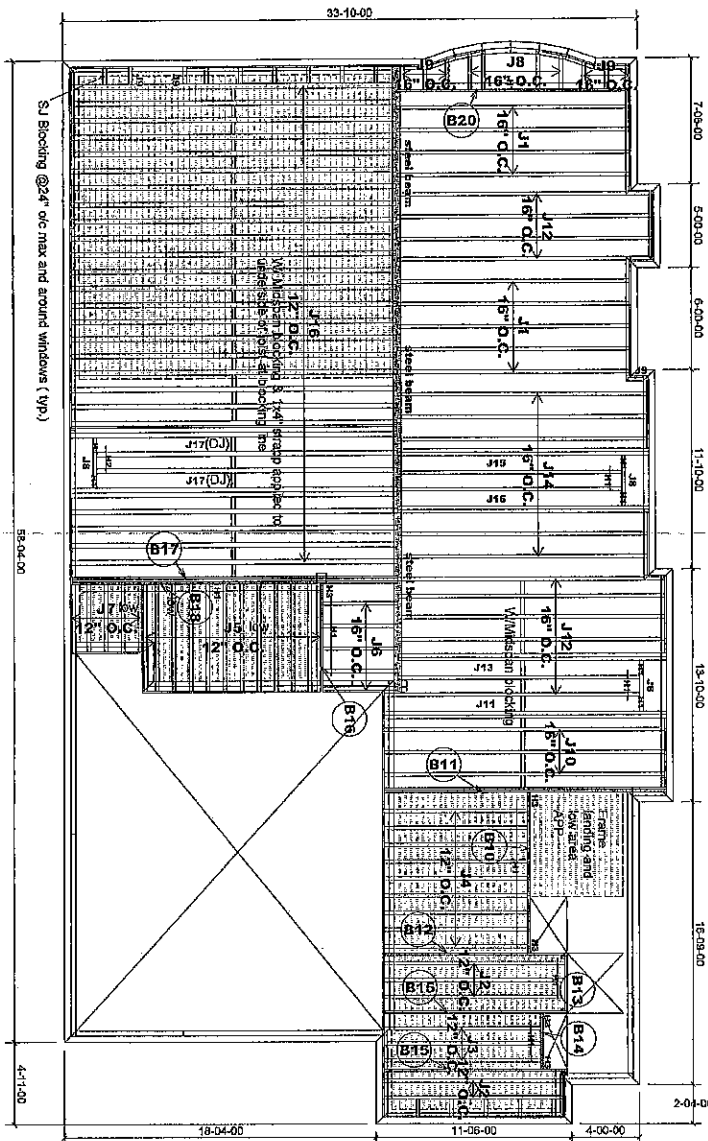
Joists spacing under ceramic tile is 12" o/c

Ceramic tiles application is as per O.B.C. 9.30.6

FIRST FLOOR FRAMING

MODEL: 42-6
ELEVATION B
CORNER UPGRADE LOT 34
REVISION
2537/87
DATE
PL. NO.
1
2

JT/PL: 40297/92054 Builder: Gold Park Homes Location: Kleinburg Designer: LA Alpa Roof Trusses Inc. Salesperson: Derek
 LI: 281843 Project: Huntington & Nashville Date: May 06/17 Sheet: 1 of 3 Maple, Ontario Home Lumber



MODEL: 42-5			
ELEVATION B			
CORNER UPGRADE LOT 34			
W/SUNKEN MUDROOM			
REVISION			
NO	DATE	PL NO	
1	25/7/17	192054	
2			

FIRST FLOOR FRAMING

Do not scale - refer to architectural plans for dimensions

Product	Product	Piles	Net Qty
J1	14-00-00	8 1/2" NL-20	1
J2	11-00-00	8 1/2" NL-20	1
J3	10-00-00	8 1/2" NL-20	1
J4	9-00-00	8 1/2" NL-20	1
J5	7-00-00	8 1/2" NL-20	1
J6	5-00-00	8 1/2" NL-20	1
J7	4-00-00	8 1/2" NL-20	1
J8	3-00-00	8 1/2" NL-20	1
J9	2-00-00	8 1/2" NL-20	1
J10	17-00-00	8 1/2" NL-40x	1
J11	17-00-00	8 1/2" NL-40x	2
J12	16-00-00	8 1/2" NL-40x	1
J13	16-00-00	8 1/2" NL-40x	2
J14	15-00-00	8 1/2" NL-40x	1
J15	15-00-00	8 1/2" NL-40x	2
J16	20-00-00	8 1/2" NL-80	1
J17	20-00-00	8 1/2" NL-80	2
J18	20-00-00	8 1/2" NL-80	4
J19	20-00-00	8 1/2" NL-80	2
J20	20-00-00	8 1/2" NL-80	3
J21	20-00-00	8 1/2" NL-80	2
J22	20-00-00	8 1/2" NL-80	2
J23	20-00-00	8 1/2" NL-80	2
J24	20-00-00	8 1/2" NL-80	2
J25	20-00-00	8 1/2" NL-80	2
J26	20-00-00	8 1/2" NL-80	2
J27	20-00-00	8 1/2" NL-80	2
J28	20-00-00	8 1/2" NL-80	2
J29	20-00-00	8 1/2" NL-80	2
J30	20-00-00	8 1/2" NL-80	2
J31	20-00-00	8 1/2" NL-80	2
J32	20-00-00	8 1/2" NL-80	2
J33	20-00-00	8 1/2" NL-80	2
J34	20-00-00	8 1/2" NL-80	2
J35	20-00-00	8 1/2" NL-80	2
J36	20-00-00	8 1/2" NL-80	2
J37	20-00-00	8 1/2" NL-80	2
J38	20-00-00	8 1/2" NL-80	2
J39	20-00-00	8 1/2" NL-80	2
J40	20-00-00	8 1/2" NL-80	2
J41	20-00-00	8 1/2" NL-80	2
J42	20-00-00	8 1/2" NL-80	2
J43	20-00-00	8 1/2" NL-80	2
J44	20-00-00	8 1/2" NL-80	2
J45	20-00-00	8 1/2" NL-80	2
J46	20-00-00	8 1/2" NL-80	2
J47	20-00-00	8 1/2" NL-80	2
J48	20-00-00	8 1/2" NL-80	2
J49	20-00-00	8 1/2" NL-80	2
J50	20-00-00	8 1/2" NL-80	2
J51	20-00-00	8 1/2" NL-80	2
J52	20-00-00	8 1/2" NL-80	2
J53	20-00-00	8 1/2" NL-80	2
J54	20-00-00	8 1/2" NL-80	2
J55	20-00-00	8 1/2" NL-80	2
J56	20-00-00	8 1/2" NL-80	2
J57	20-00-00	8 1/2" NL-80	2
J58	20-00-00	8 1/2" NL-80	2
J59	20-00-00	8 1/2" NL-80	2
J60	20-00-00	8 1/2" NL-80	2
J61	20-00-00	8 1/2" NL-80	2
J62	20-00-00	8 1/2" NL-80	2
J63	20-00-00	8 1/2" NL-80	2
J64	20-00-00	8 1/2" NL-80	2
J65	20-00-00	8 1/2" NL-80	2
J66	20-00-00	8 1/2" NL-80	2
J67	20-00-00	8 1/2" NL-80	2
J68	20-00-00	8 1/2" NL-80	2
J69	20-00-00	8 1/2" NL-80	2
J70	20-00-00	8 1/2" NL-80	2
J71	20-00-00	8 1/2" NL-80	2
J72	20-00-00	8 1/2" NL-80	2
J73	20-00-00	8 1/2" NL-80	2
J74	20-00-00	8 1/2" NL-80	2
J75	20-00-00	8 1/2" NL-80	2
J76	20-00-00	8 1/2" NL-80	2
J77	20-00-00	8 1/2" NL-80	2
J78	20-00-00	8 1/2" NL-80	2
J79	20-00-00	8 1/2" NL-80	2
J80	20-00-00	8 1/2" NL-80	2
J81	20-00-00	8 1/2" NL-80	2
J82	20-00-00	8 1/2" NL-80	2
J83	20-00-00	8 1/2" NL-80	2
J84	20-00-00	8 1/2" NL-80	2
J85	20-00-00	8 1/2" NL-80	2
J86	20-00-00	8 1/2" NL-80	2
J87	20-00-00	8 1/2" NL-80	2
J88	20-00-00	8 1/2" NL-80	2
J89	20-00-00	8 1/2" NL-80	2
J90	20-00-00	8 1/2" NL-80	2
J91	20-00-00	8 1/2" NL-80	2
J92	20-00-00	8 1/2" NL-80	2
J93	20-00-00	8 1/2" NL-80	2
J94	20-00-00	8 1/2" NL-80	2
J95	20-00-00	8 1/2" NL-80	2
J96	20-00-00	8 1/2" NL-80	2
J97	20-00-00	8 1/2" NL-80	2
J98	20-00-00	8 1/2" NL-80	2
J99	20-00-00	8 1/2" NL-80	2
J100	20-00-00	8 1/2" NL-80	2

8 1/2" BLOCKING 64LF

APR - AS PER PLAN
BDO - BEAM BY OTHERS

SUBFLOOR - 5/8" NAILED & GLUED
RIMBOARD

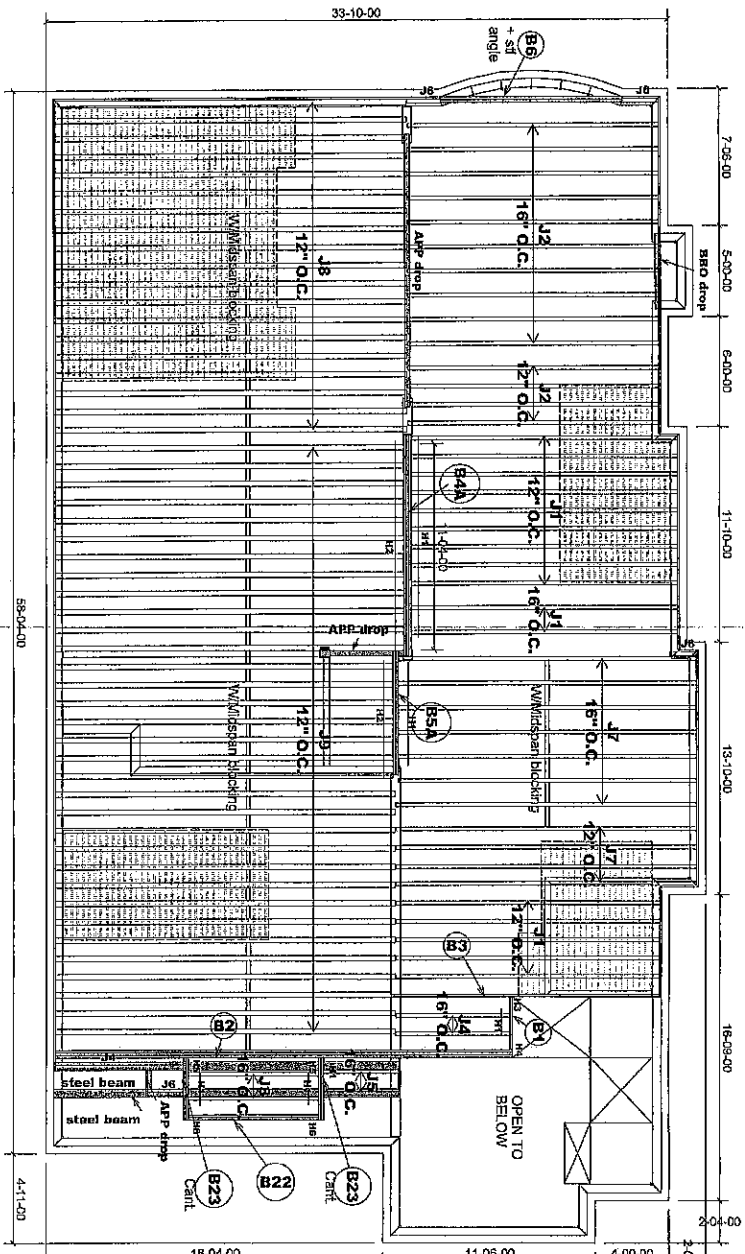
1-1/8" X 9 1/2" O.S.B

FANGERS SCHEDULE	
B1	L1759
B2	L1759
B3	HUST1.8/170

TILE AREA	
B1	1.759
B2	1.759
B3	1.817

1.2x6 SPP#2 Squash Block rtd on one side of joists under interior load bearing wall
Multiple squash blocks are required under concentrated loads
Joists spacing under ceramic tile is 12" o/c
Ceramic tiles application is as per O.B.C. § 30.6

JT/PL: 40297/92054 Builder: Gold Park Homes Location: Kleinburg Designer: LA Salesperson: Derek
L.I: 281843 Project: Huntington & Nashville Date: May 06/17 Sheet: 2 of 3 Maple, Ontario Home Lumber



SECOND FLOOR FRAMING

MODEL: 425
ELEVATION B
CORNER UPGRADE LOT 34

REVISION			
NO.	DATE	BY	CHK.
253787	9/20/04		
1.			
2.			

Do not scale - refer to architectural plans for dimensions

Product	Length	Product	Pieces	Net Qty
15'-00'-00"	9 1/2" NI-20	1	16	
14'-00'-00"	9 1/2" NI-20	1	14	
8'-00'-00"	9 1/2" NI-20	1	2	
7'-00'-00"	9 1/2" NI-20	1	3	
5'-00'-00"	9 1/2" NI-20	1	2	
2'-00'-00"	9 1/2" NI-20	1	4	
17'-00'-00"	9 1/2" NI-40x	1	11	
20'-00'-00"	9 1/2" NI-80	1	19	
19'-00'-00"	9 1/2" NI-80	1	33	
25'-00'-00"	VERSALAM-10 2.0E	3	3	
15'-00'-00"	VERSALAM-10 2.0E	1	1	
13'-00'-00"	VERSALAM-10 2.0E	3	3	
10'-00'-00"	VERSALAM-10 2.0E	2	2	
8'-00'-00"	VERSALAM-10 2.0E	2	2	
7'-00'-00"	VERSALAM-10 2.0E	2	2	
4'-00'-00"	VERSALAM-10 2.0E	2	4	
3'-00'-00"	VERSALAM-10 2.0E	1	1	

9 1/2" BLOCKING 64 LF

APP - AS PER PLAN
BBO - BEAM BY OTHERS

SUBFLOOR - 5/8" NAILLED & GLUED
RIMBOARD

1-1/8" X 9 1/2" O.S.B

HANGERS SCHEDULE

H1	LT259
H2	LT359
H3	HUS1.8/1/0
H4	HUBX
H5	HGUS410
H6	HUC410

TILE AREA	
1-2x6 SPF#2 Squash Block req'd on one side of joists under interior load bearing wall	
Multiple squash blocks are required under concentrated loads	
Joists spacing under ceramic tile is 12" o/c	
Ceramic tiles application is as per O.B.C. 9.30.6	
Provide 1 Joist Blocking between cantilevered 1-Joist (along bearing) and rimboard closure at ends	

JT/PL: 40297/92054 Builder: Gold Park Homes Location: Kleinburg Designer: LA Salesperson: Derek
L: 281843 Project: Huntington & Nashville Date: May 06/17 Sheet: 3 of 3 Maple, Ontario Home Lumber

BC CALC® Design Report


Build 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

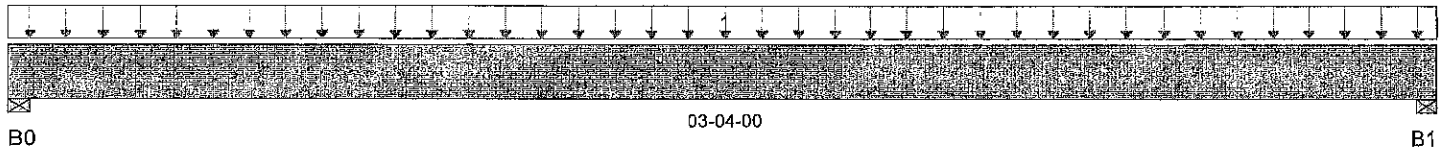
Description: Designs\01

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 03-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	344 / 0	137 / 0		
B1, 3-1/2"	344 / 0	137 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)		L	00-00-00	03-04-00	40	15			05-02-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Moment	427 ft-lbs	12,704 ft-lbs	0.03	1	01-08-00
End Shear	241 lbs	5,785 lbs	0.04	1	01-01-00
Total Load Defl.	L/999 (0.002")	n/a	n/a	4	01-08-00
Live Load Defl.	L/999 (0.001")	n/a	n/a	5	01-08-00
Max Defl.	0.002"	n/a	n/a	4	01-08-00
Span / Depth	3.6	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	688 lbs	0.18	0.09	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	688 lbs	0.18	0.09	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ O.C., STAGGERED IN TWO ROWS

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. \n\nBC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



BC CALC® Design Report


Build 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

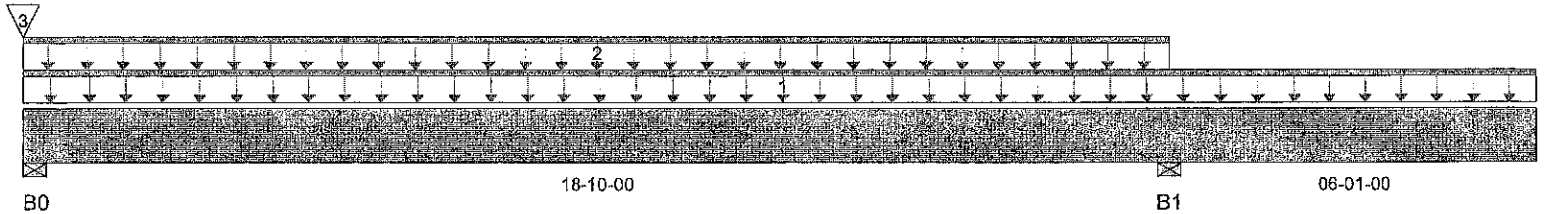
Description: Designs\02

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 24-11-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	859 / 27	441 / 0		
B1, 3-1/2"	693 / 0	493 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1		Unf. Lin. (lb/ft)	L	00-00-00	24-11-00	27	10			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	18-10-00	27	10			n/a
3		Conc. Pt. (lbs)	R	24-11-00	24-11-00	344	137			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,088 ft-lbs	39,636 ft-lbs	0.13	2	09-02-12
Neg. Moment	-1,315 ft-lbs	-39,636 ft-lbs	0.03	1	18-10-00
End Shear	1,018 lbs	17,356 lbs	0.06	2	01-01-00
Cont. Shear	1,108 lbs	17,356 lbs	0.06	1	17-10-12
Total Load Defl.	L/756 (0.295")	0.93"	0.32	9	09-05-14
Live Load Defl.	2xL/719 (-0.203")	-0.406"	0.5	12	24-11-00
Total Neg. Defl.	2xL/515 (-0.284")	-0.608"	0.47	9	24-11-00
Max Defl.	0.295"	1"	0.3	9	09-05-14
Cant. Max Defl.	-0.284"	-1"	0.28	9	24-11-00
Span / Depth	23.5	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 5-1/4"	1,839 lbs	0.16	0.08	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 5-1/4"	1,657 lbs	0.15	0.07	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets User specified (2xL/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total load deflection criteria.
 Design meets arbitrary (1") Cantilever Maximum total load deflection criteria.
 Calculations assume Member is Fully Braced.
 Resistance Factor phi has been applied to all presented results per CSA 086.
 CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.



User Notes NAIL ONE ROW TO ANOTHER WITH 3/2" SPIRAL NAILS @ 12" O.C..
 Page 1 of 2 STRUTTED IN 2 ROWS

S.129652

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

May-05-15

BC CALC® Design Report



Build 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

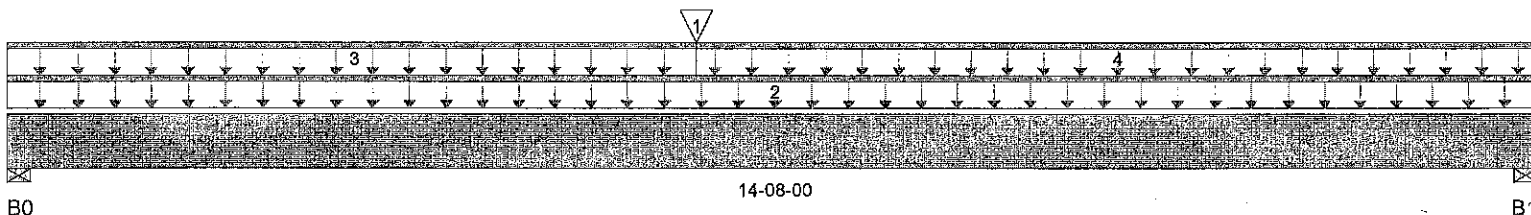
Description: Designs\03

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 14-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	476 / 0	366 / 0		
B1, 3-1/2"	339 / 0	539 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Conc. Pt. (lbs)		L	06-07-00	06-07-00	344	137			n/a
2	Unf. Lin. (lb/ft)		L	00-00-00	14-08-00	20	10			n/a
3	Unf. Lin. (lb/ft)		L	00-00-00	06-07-00	27	10			n/a
4	Unf. Lin. (lb/ft)		L	06-07-00	14-08-00	0	60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,251 ft-lbs	12,704 ft-lbs	0.41	1	06-07-00
End Shear	1,062 lbs	5,785 lbs	0.18	1	01-01-00
Total Load Defl.	L/336 (0.508")	0.71"	0.72	4	07-02-14
Live Load Defl.	L/670 (0.255")	0.474"	0.54	5	07-01-09
Max Defl.	0.508"	1"	0.51	4	07-02-14
Span / Depth	17.9	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	1,172 lbs	0.31	0.16	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,182 lbs	0.31	0.16	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ O.C., STAGGERED IN TWO ROWS

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. \n\nBC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



2129653



Build 5837

Job Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

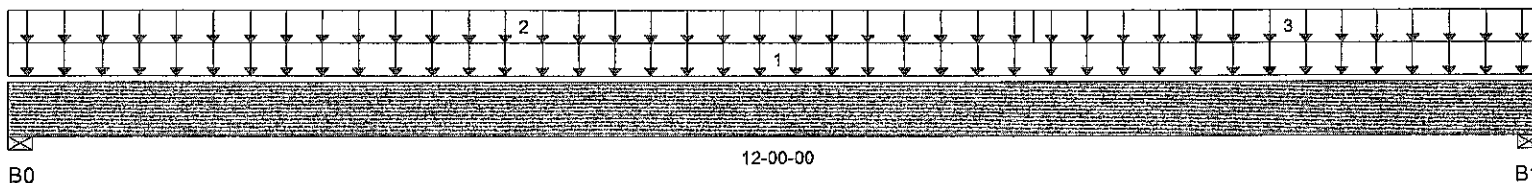
Description: Designs\4A

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 12-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	4,020 / 0	1,789 / 0		
B1, 3-1/2"	4,020 / 0	1,689 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1		Unf. Area (lb/ft^2)	L	00-00-00	12-00-00	40	15			09-06-00
2		Unf. Area (lb/ft^2)	L	00-00-00	08-00-00	40	20			07-03-00
3		Unf. Area (lb/ft^2)	L	08-00-00	12-00-00	40	15			07-03-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	22,858 ft-lbs	39,636 ft-lbs	57.7%	1	05-11-06
End Shear	6,769 lbs	17,356 lbs	39%	1	01-01-00
Total Load Defl.	L/270 (0.513")	0.577"	88.8%	4	05-11-06
Live Load Defl.	L/388 (0.357")	0.385"	92.7%	5	05-11-06
Max Defl.	0.513"	1"	51.3%	4	05-11-06
Span / Depth	14.6	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 5-1/4"	8,267 lbs	73.1%	36.9%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 5-1/4"	8,141 lbs	72%	36.3%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum 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 2010 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4

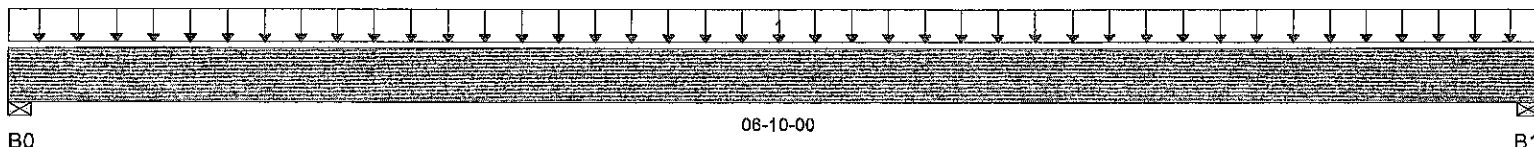
User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ 6" O.C., STAGGERED IN TWO ROWS



Build 5837
 Job Name: 40297
 Address: Huntington & Nashville
 City, Province, Postal Code: Kleinburg, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

File Name: 253787.bcc
 Description: Designs\5A
 Specifier: 42-5
 Designer: LA
 Company: ALPA ROOF TRUSSES INC
 Misc:



Total Horizontal Product Length = 06-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	2,357 / 0	917 / 0		
B1, 3-1/2"	2,358 / 0	917 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)		L	00-00-00	06-10-00	40	15			17-03-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	6,962 ft-lbs	25,408 ft-lbs	27.4%	1	03-05-00
End Shear	3,198 lbs	11,571 lbs	27.6%	1	01-01-00
Total Load Defl.	L/999 (0.071")	n/a	n/a	4	03-05-00
Live Load Defl.	L/999 (0.051")	n/a	n/a	5	03-05-00
Max Defl.	0.071"	n/a	n/a	4	03-05-00
Span / Depth	8.1	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

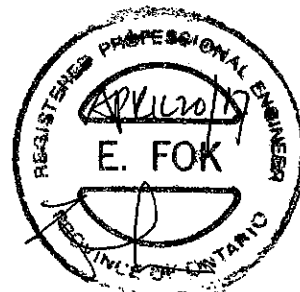
	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	4,682 lbs	62.1%	31.3%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	4,682 lbs	62.1%	31.3%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum 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 2010 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ 9" O.C., STAGGERED IN TWO ROWS

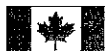


S.145144

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

May-05-15

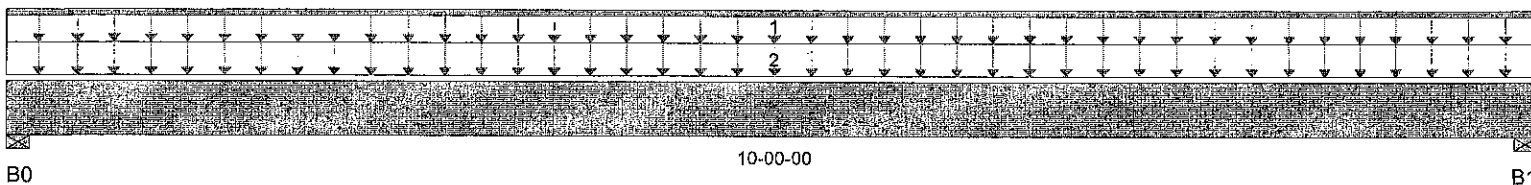
BC CALC® Design Report



Build 3272

Name: 40297
 Address: Huntington & Nashville
 City, Province, Postal Code: Kleinburg, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

File Name: 253787.bcc
 Description: Designs\06
 Specifier: 42-5
 Designer: LA
 Company: ALPA ROOF TRUSSES INC
 Misc:



Total Horizontal Product Length = 10-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	397 / 0	848 / 0	525 / 0	
B1, 3-1/2"	398 / 0	848 / 0	525 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1		Unf. Lin. (lb/ft)	L	00-00-00	10-00-00	27	110			n/a
2		Unf. Area (lb/ft^2)	L	00-00-00	10-00-00	11	10	21		05-00-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,658 ft-lbs	25,408 ft-lbs	0.18	5	05-00-00
End Shear	1,603 lbs	11,571 lbs	0.14	5	01-01-00
Total Load Defl.	L/999 (0.113")	n/a	n/a	13	05-00-00
Live Load Defl.	L/999 (0.05")	n/a	n/a	17	05-00-00
Max Defl.	0.113"	n/a	n/a	13	05-00-00
Span / Depth	12.1	n/a	n/a		00-00-00

Bearing Supports

				Demand/ Resistance Support	Demand/ Resistance Member	Material
Bearing Supports		Dim. (L x W)	Demand			
B0	Wall/Plate	3-1/2" x 3-1/2"	2,046 lbs	0.27	0.14	Spruce Pine Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	2,046 lbs	0.27	0.14	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 12" O.C., STAGGERED IN TWO ROWS



S-129656

BC CALC® Design Report


Build 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

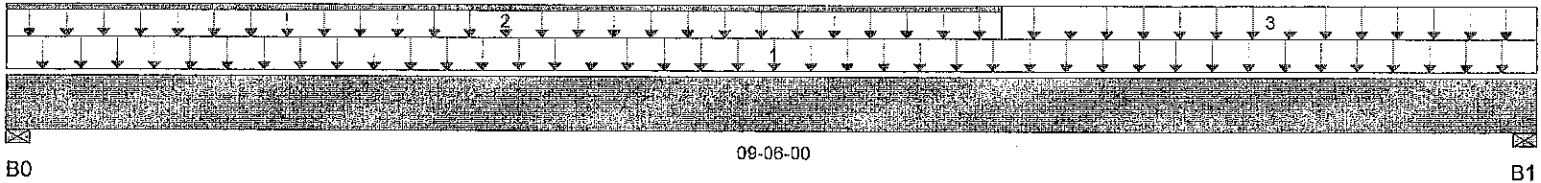
Description: Designs\10

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 09-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	831 / 0	688 / 0		
B1, 3-1/2"	929 / 0	589 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1		Unf. Area (lb/ft ²)	L	00-00-00	09-06-00	40	20			04-03-00
2		Unf. Lin. (lb/ft)	L	00-00-00	06-02-00	0	60			n/a
3		Unf. Area (lb/ft ²)	L	06-02-00	09-06-00	40	15			01-01-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,544 ft-lbs	12,704 ft-lbs	0.36	1	04-08-13
End Shear	1,639 lbs	5,785 lbs	0.28	1	08-05-00
Total Load Defl.	L/564 (0.192")	0.452"	0.43	4	04-08-13
Live Load Defl.	L/999 (0.109")	n/a	n/a	5	04-09-13
Max Defl.	0.192"	1"	0.19	4	04-08-13
Span / Depth	11.4	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	2,106 lbs	0.56	0.28	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	2,130 lbs	0.57	0.28	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 O.C., STAGGERED IN TWO ROWS

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. \n\nBC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



S129657

BC CALC® Design Report


Building 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

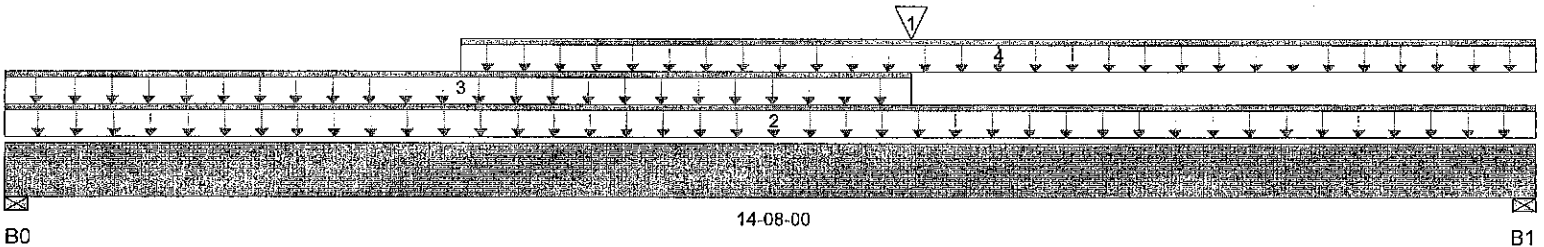
Description: Designs\11

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 14-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	659 / 0	701 / 0		
B1, 3-1/2"	742 / 0	982 / 0		

Load Summary

Tax	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1		Conc. Pt. (lbs)	L	08-08-00	08-08-00	831	688			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	14-08-00	27	10			n/a
3		Unf. Lin. (lb/ft)	L	00-00-00	08-08-00	20	10			n/a
4		Unf. Lin. (lb/ft)	L	04-04-00	14-08-00	0	60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	10,985 ft-lbs	25,408 ft-lbs	0.43	1	08-08-00
End Shear	2,188 lbs	11,571 lbs	0.19	1	13-07-00
Total Load Defl.	L/335 (0.509")	0.71"	0.72	4	07-07-00
Live Load Defl.	L/720 (0.237")	0.474"	0.5	5	07-07-00
Max Defl.	0.509"	1"	0.51	4	07-07-00
Span / Depth	17.9	n/a	n/a		00-00-00

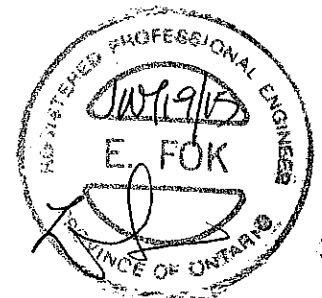
Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,864 lbs	0.25	0.12	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	2,340 lbs	0.31	0.16	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes NAIL ONE PUT TO ANOTHER WITH 3/2" SPIRAL NAILS
 @ 12" O.C., STAGGERED IN 2 ROWS



S.129658



Build 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

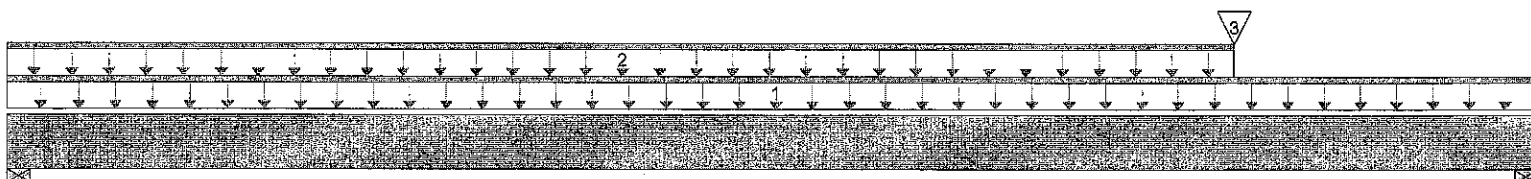
Description: Designs\12

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



B0 10-10-00

B1

Total Horizontal Product Length = 10-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	386 / 0	243 / 0		
B1, 3-1/2"	933 / 0	594 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1	Unf. Lin. (lb/ft)		L	00-00-00	10-10-00	20	10			n/a
2	Unf. Lin. (lb/ft)		L	00-00-00	08-08-00	20	10			n/a
3	Conc. Pt. (lbs)		L	08-08-00	08-08-00	929	589			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,034 ft-lbs	12,704 ft-lbs	0.32	1	08-08-00
End Shear	2,088 lbs	5,785 lbs	0.36	1	09-09-00
Total Load Defl.	L/632 (0.197")	0.519"	0.38	4	05-09-14
Live Load Defl.	L/999 (0.121")	n/a	n/a	5	05-09-14
Max Defl.	0.197"	1"	0.2	4	05-09-14
Span / Depth	13.1	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	883 lbs	0.23	0.12	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	2,141 lbs	0.57	0.29	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ O.C., STAGGERED IN TWO ROWS

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. \n\nBC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



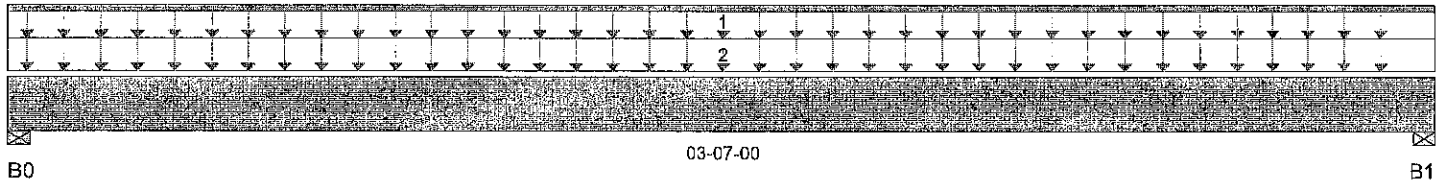
S-129659



Project: 3272

Name: 40297
Address: Huntington & Nashville
City, Province, Postal Code: Kleinburg, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 253787.bcc
Description: Designs\13
Specifier: 42-5
Designer: LA
Company: ALPA ROOF TRUSSES INC
Misc:



Total Horizontal Product Length = 03-07-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	388 / 0	310 / 0		
B1, 3-1/2"	388 / 0	310 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1		Unf. Lin. (lb/ft)	L	00-00-00	03-07-00	0	60			n/a
2		Unf. Area (lb/ft^2)	L	00-00-00	03-07-00	40	20			05-05-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	661 ft-lbs	12,704 ft-lbs	0.05	1	01-09-08
End Shear	384 lbs	5,785 lbs	0.07	1	01-01-00
Total Load Defl.	L/999 (0.003")	n/a	n/a	4	01-09-08
Live Load Defl.	L/999 (0.002")	n/a	n/a	5	01-09-08
Max Defl.	0.003"	n/a	n/a	4	01-09-08
Span / Depth	3.9	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	970 lbs	0.26	0.13	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	970 lbs	0.26	0.13	Spruce Pine Fir

Notes

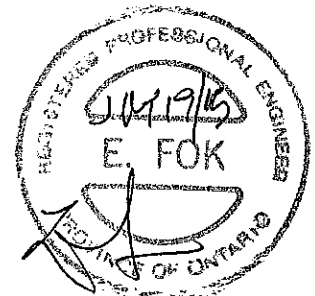
Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum total load deflection criteria.
Calculations assume Member is Fully Braced.
Resistance Factor phi has been applied to all presented results per CSA 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
O.C., STAGGERED IN TWO ROWS

Disclosure

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S.129660

BC CALCO® Design Report



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

May-05-15

Build 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

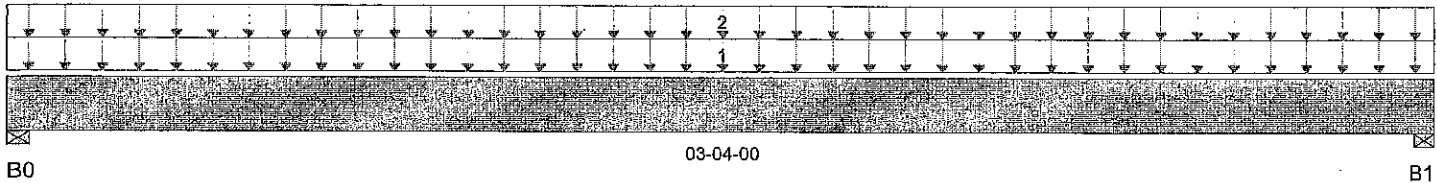
Description: Designs\14

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 03-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	361 / 0	183 / 0		
B1, 3-1/2"	361 / 0	183 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1		Unf. Area (lb/ft^2)	L	00-00-00	03-04-00	40	15			00-08-08
2		Unf. Area (lb/ft^2)	L	00-00-00	03-04-00	40	20			04-08-08

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	477 ft-lbs	12,704 ft-lbs	0.04	1	01-08-00
End Shear	270 lbs	5,785 lbs	0.05	1	01-01-00
Total Load Defl.	L/999 (0.002")	n/a	n/a	4	01-08-00
Live Load Defl.	L/999 (0.001")	n/a	n/a	5	01-08-00
Max Defl.	0.002"	n/a	n/a	4	01-08-00
Span / Depth	3.6	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	770 lbs	0.2	0.1	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	770 lbs	0.2	0.1	Spruce Pine Fir

Notes

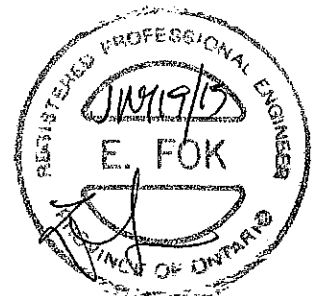
Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total load deflection criteria.
 Calculations assume Member is Fully Braced.
 Resistance Factor phi has been applied to all presented results per CSA 086.
 BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 O.C., STAGGERED IN TWO ROWS

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. n/n BC CALCO®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC I®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



BC CALC® Design Report


B-1 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

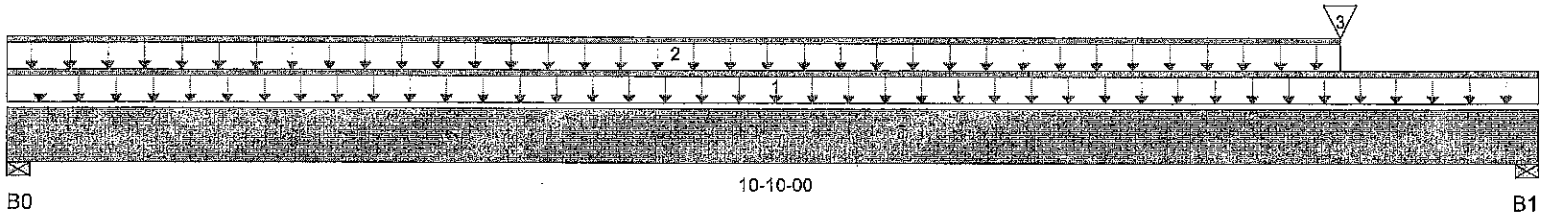
Description: Designs\15

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 10-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	257 / 0	155 / 0		
B1, 3-1/2"	509 / 0	283 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1		Unf. Lin. (lb/ft)	L	00-00-00	10-10-00	20	10			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	09-05-00	20	10			n/a
3		Conc. Pt. (lbs)	L	09-05-00	09-05-00	361	183			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,707 ft-lbs	12,704 ft-lbs	0.13	1	06-03-08
End Shear	1,065 lbs	5,785 lbs	0.18	1	09-09-00
Total Load Defl.	L/999 (0.096")	n/a	n/a	4	05-07-11
Live Load Defl.	L/999 (0.061")	n/a	n/a	5	05-07-11
Max Defl.	0.096"	n/a	n/a	4	05-07-11
Span / Depth	13.1	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	578 lbs	0.15	0.08	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,118 lbs	0.3	0.15	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. \n\nBC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.


Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ O.C., STAGGERED IN TWO ROWS

BC CALC® Design Report


Project: 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

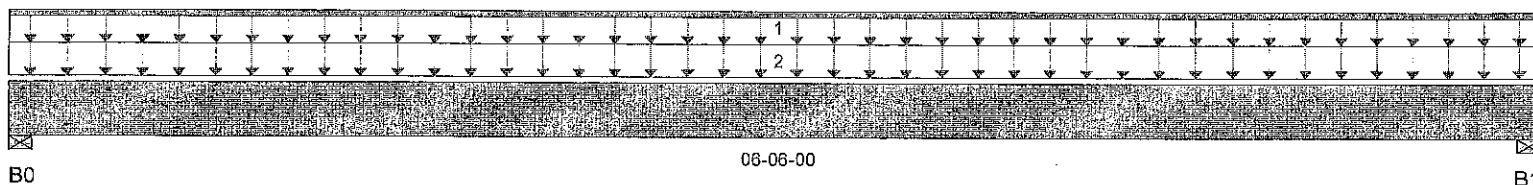
Description: Designs\16

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 06-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	292 / 0	320 / 0		
B1, 3-1/2"	292 / 0	320 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1		Unf. Lin. (lb/ft)	L	00-00-00	06-06-00	0	60			n/a
2		Unf. Area (lb/ft^2)	L	00-00-00	06-06-00	40	15			02-03-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,178 ft-lbs	12,704 ft-lbs	0.09	1	03-03-00
End Shear	559 lbs	5,785 lbs	0.1	1	01-01-00
Total Load Defl.	L/999 (0.023")	n/a	n/a	4	03-03-00
Live Load Defl.	L/999 (0.011")	n/a	n/a	5	03-03-00
Max Defl.	0.023"	n/a	n/a	4	03-03-00
Span / Depth	7.6	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	839 lbs	0.22	0.11	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	839 lbs	0.22	0.11	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 O.C., STAGGERED IN TWO ROWS

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. \n\nBC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC1®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



S-129663

BC CALC® Design Report


Build 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

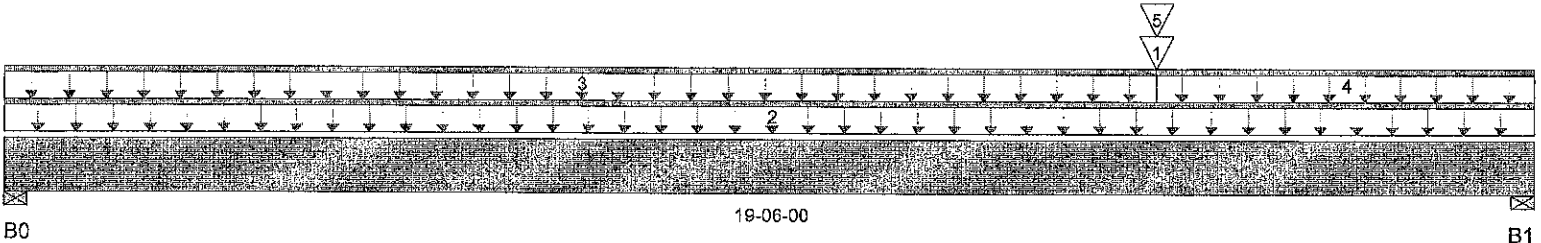
Description: Designs\17

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 19-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	386 / 0	920 / 0		
B1, 3-1/2"	862 / 0	999 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1		Conc. Pt. (lbs)	L	14-08-00	14-08-00	292	320			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	19-06-00	20	10			n/a
3		Unf. Lin. (lb/ft)	L	00-00-00	14-08-00	0	60			n/a
4		Unf. Lin. (lb/ft)	L	14-08-00	19-06-00	27	10			n/a
5		Conc. Pt. (lbs)	L	14-08-00	14-08-00	436	193			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	10,626 ft-lbs	39,636 ft-lbs	0.27	1	12-09-01
End Shear	2,419 lbs	17,356 lbs	0.14	1	18-05-00
Total Load Defl.	L/338 (0.676")	0.952"	0.71	4	10-02-08
Live Load Defl.	L/891 (0.257")	0.635"	0.4	5	10-07-10
Max Defl.	0.676"	1"	0.68	4	10-02-08
Span / Depth	24.1	n/a	n/a		00-00-00

Bearing Supports

Bearing Supports			Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 5-1/4"	1,287 lbs	0.18	0.09	Spruce Pine Fir	
B1	Wall/Plate	3-1/2" x 5-1/4"	2,542 lbs	0.22	0.11	Spruce Pine Fir	

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Resistance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE END TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ 12" O.C., STRUTTED IN 2 ROWS



BC CALC® Design Report


Build 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

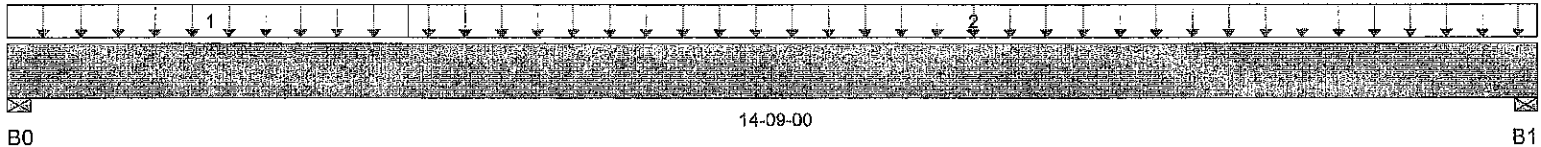
Description: Designs\18

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



Total Horizontal Product Length = 14-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	776 / 0	459 / 0		
B1, 3-1/2"	913 / 0	527 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1		Unf. Area (lb/ft^2)	L	00-00-00	03-10-00	40	20			02-00-00
2		Unf. Area (lb/ft^2)	L	03-10-00	14-09-00	40	20			03-02-00

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	6,861 ft-lbs	25,408 ft-lbs	0.27	1	07-06-04
End Shear	1,724 lbs	11,571 lbs	0.15	1	13-08-00
Total Load Defl.	L/482 (0.355")	0.715"	0.5	4	07-04-07
Live Load Defl.	L/763 (0.225")	0.476"	0.47	5	07-04-07
Max Defl.	0.355"	1"	0.36	4	07-04-07
Span / Depth	18.1	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,739 lbs	0.23	0.12	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	2,029 lbs	0.27	0.14	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ 12" O.C., STAGGERED IN TWO ROWS



BC CALC® Design Report


B-1 3272

Name:

40297

Address:

Huntington & Nashville

City, Province, Postal Code: Kleinburg, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 253787.bcc

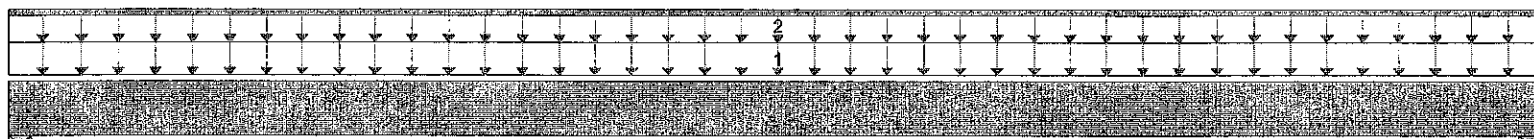
Description: Designs\20

Specifier: 42-5

Designer: LA

Company: ALPA ROOF TRUSSES INC

Misc:



B0 14-00-00 B1

Total Horizontal Product Length = 14-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	516 / 0	226 / 0		
B1, 3-1/2"	516 / 0	226 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1		Unf. Area (lb/ft^2)	L	00-00-00	14-00-00	40	15			01-02-00
2		Unf. Lin. (lb/ft)	L	00-00-00	14-00-00	27	10			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,459 ft-lbs	12,704 ft-lbs	0.27	1	07-00-00
End Shear	893 lbs	5,785 lbs	0.15	1	01-01-00
Total Load Defl.	L/507 (0.321")	0.677"	0.47	4	07-00-00
Live Load Defl.	L/729 (0.223")	0.451"	0.49	5	07-00-00
Max Defl.	0.321"	1"	0.32	4	07-00-00
Span / Depth	17.1	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	1,056 lbs	0.28	0.14	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,056 lbs	0.28	0.14	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

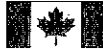
User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 O.C., STAGGERED IN TWO ROWS

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

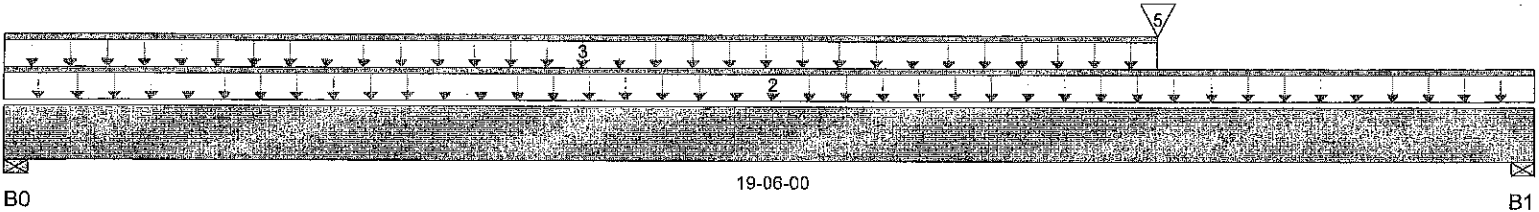


BC CALC® Design Report


Build 3272

Name: 40297
 Address: Huntington & Nashville
 City, Province, Postal Code: Kleinburg, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

File Name: 253787.bcc
 Description: Designs\21
 Specifier: 42-5
 Designer: LA
 Company: ALPA ROOF TRUSSES INC
 Misc:



Total Horizontal Product Length = 19-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	495 / 0	887 / 0		
B1, 3-1/2"	721 / 0	764 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
2		Unf. Lin. (lb/ft)	L	00-00-00	19-06-00	40	20			n/a
		Unf. Lin. (lb/ft)	L	00-00-00	14-08-00	0	60			n/a
		Conc. Pt. (lbs)	L	14-08-00	14-08-00	436	193			n/a

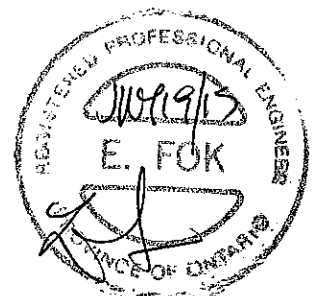
Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	9,548 ft-lbs	25,408 ft-lbs	0.38	1	10-10-02
End Shear	1,930 lbs	11,571 lbs	0.17	1	18-05-00
Total Load Defl.	L/246 (0.928")	0.952"	0.97	4	09-11-15
Live Load Defl.	L/598 (0.382")	0.635"	0.6	5	10-02-08
Max Defl.	0.928"	1"	0.93	4	09-11-15
Span / Depth	24.1	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,242 lbs	0.25	0.13	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	2,036 lbs	0.27	0.14	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.


Notes

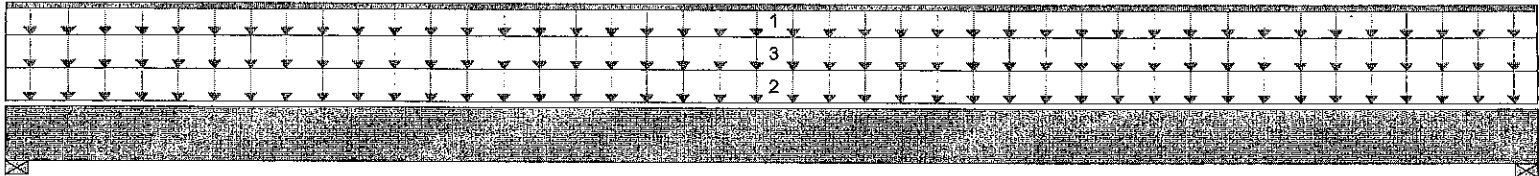
NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ 12" O.C., STAGGERED IN TWO ROWS



B: 1 3272

Name: 40297
 Address: Huntington & Nashville
 City, Province, Postal Code: Kleinburg, ON
 Customer: Gold Park
 Code reports: CCMC 12472-R

File Name: 253787.bcc
 Description: Designs\22
 Specifier: 42-5
 Designer: LA
 Company: ALPA ROOF TRUSSES INC
 Misc:



B0 07-01-00

B1

Total Horizontal Product Length = 07-01-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	363 / 0	530 / 0	74 / 0	
B1, 3-1/2"	363 / 0	530 / 0	74 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1		Unf. Lin. (lb/ft)	L	00-00-00	07-01-00	27	110			n/a
3		Unf. Area (lb/ft^2)	L	00-00-00	07-01-00	65	20			01-00-00
3		Unf. Area (lb/ft^2)	L	00-00-00	07-01-00	11	10	21		01-00-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,927 ft-lbs	25,408 ft-lbs	0.08	1	03-06-08
End Shear	864 lbs	11,571 lbs	0.07	1	01-01-00
Total Load Defl.	L/999 (0.023")	n/a	n/a	11	03-06-08
Live Load Defl.	L/999 (0.01")	n/a	n/a	15	03-06-08
Max Defl.	0.023"	n/a	n/a	11	03-06-08
Span / Depth	8.4	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,244 lbs	0.17	0.08	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	1,244 lbs	0.17	0.08	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total 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 and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ 12" O.C., STAGGERED IN TWO ROWS



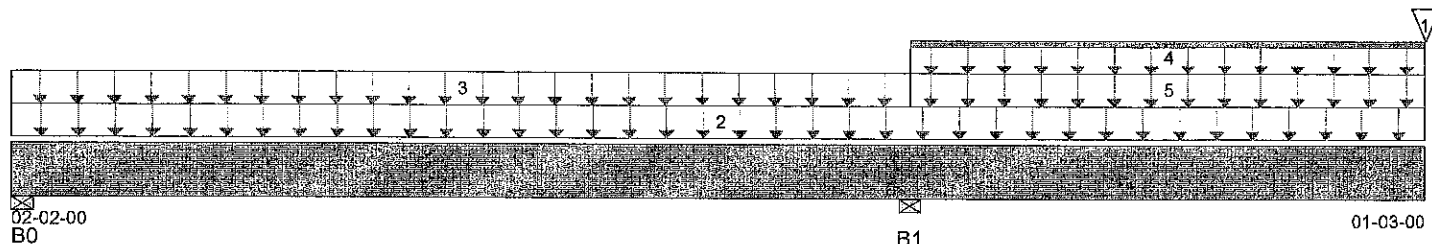
BC CALC® Design Report



Beam 3272

Name: 40297
Address: Huntington & Nashville
City, Province, Postal Code: Kleinburg, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 253787.bcc
Description: Designs\23
Specifier: 42-5
Designer: LA
Company: ALPA ROOF TRUSSES INC
Misc:



Total Horizontal Product Length = 03-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	268 / 296	0 / 300	0 / 56	
B1, 3-1/2"	1,068 / 0	1,249 / 0	156 / 0	

Load Summary

Item	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1		Conc. Pt. (lbs)	L	03-05-00	03-05-00	363	530	74		n/a
2		Unf. Area (lb/ft^2)	L	00-00-00	03-05-00	40	15			03-07-00
3		Unf. Area (lb/ft^2)	L	00-00-00	02-02-00	40	15			02-00-00
4		Unf. Lin. (lb/ft)	L	02-02-00	03-05-00	0	100			n/a
5		Unf. Area (lb/ft^2)	L	02-02-00	03-05-00	11	10	21		01-00-00

Controls Summary

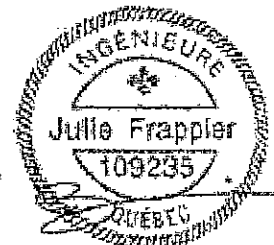
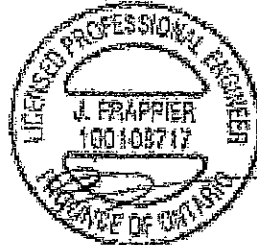
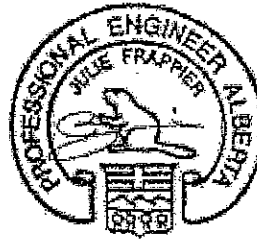
	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1 ft-lbs	n/a	n/a	11	00-03-13
Neg. Moment	-1,913 ft-lbs	-25,408 ft-lbs	0.08	3	02-02-00
End Shear	789 lbs	11,571 lbs	0.07	3	01-01-00
Cont. Shear	1,387 lbs	11,571 lbs	0.12	1	03-01-04
Uplift	847 lbs	n/a	n/a	3	00-00-00
Total Load Defl.	2xL/1,998 (0.006")	n/a	n/a	27	03-05-00
Live Load Defl.	2xL/1,998 (0.003")	n/a	n/a	37	03-05-00
Total Neg. Defl.	L/999 (-0.001")	n/a	n/a	27	01-04-04
Max Defl.	-0.001"	n/a	n/a	27	01-04-04
Cant. Max Defl.	0.006"	n/a	n/a	27	03-05-00
Span / Depth	2.4	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0	Wall/Plate 3-1/2" x 3-1/2"	847 lbs	0.11	0.06	Spruce Pine Fir
B1	Wall/Plate 3-1/2" x 3-1/2"	3,241 lbs	0.43	0.22	Spruce Pine Fir



User Notes: NAIL ONZ PUT TO ANOTHER WITH 3/8" SPIRAL NAILS @ 12" O.C., STRENGTHENED IN 2 ROWS



Maximum Floor Spans

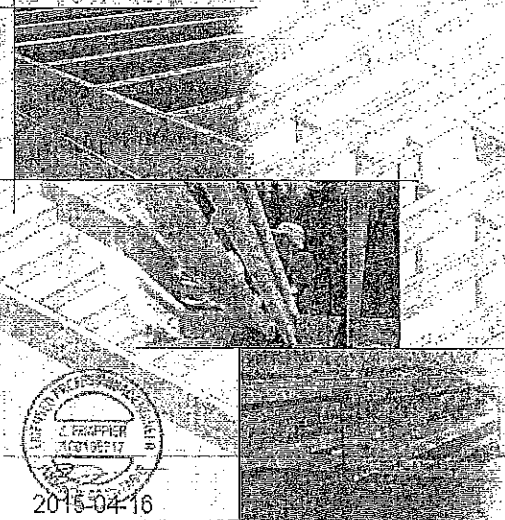
Live Load = 40 psf / Dead Load = 15 psf
Simple Spans, L/360 Deflection Limit
5/8" OSB G&N Sheathing

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

- 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 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/360 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- 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, and NBC 2010.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-1274C.



INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



Distributed by:



SAFETY AND CONSTRUCTION PRECAUTIONS

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:



Do not walk on I-joists until fully fastened and braced, or serious injuries can result.



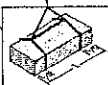
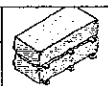
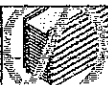
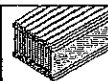
Never stack building materials over unsheathed I-joists. Once sheathed, do not over-stress I-joist with concentrated loads from building materials.

1. 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 continuously over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until the sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
 - Temporary bracing or struts must be 1x4 inch minimum, at least 6 feet long and spaced no more than 8 feet on center, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Top ends of adjoining bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
5. Never install a damaged I-joist.

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

STORAGE AND HANDLING GUIDELINES

1. Bundle wrap can be slippery when wet. Avoid walking on wrapped bundles.
2. Store, stack, and handle I-joists vertically and level only.
3. Always stack and handle I-joists in the upright position only.
4. Do not store I-joists in direct contact with the ground and/or flume.
5. Protect I-joists from weather, and use spacers to separate bundles.
6. Bundled units should be kept intact until time of installation.
7. When handling I-joists with a crane on the job site, take a few simple precautions to prevent damage to the I-joists and injury to your work crew.
 - Pick I-joists in bundles as shipped by the supplier.
 - Orient the bundles so that the webs of the I-joists are vertical.
 - Pick the bundles at the 5th points, using a spreader bar if necessary.
8. Do not handle I-joists in a horizontal orientation.
9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.

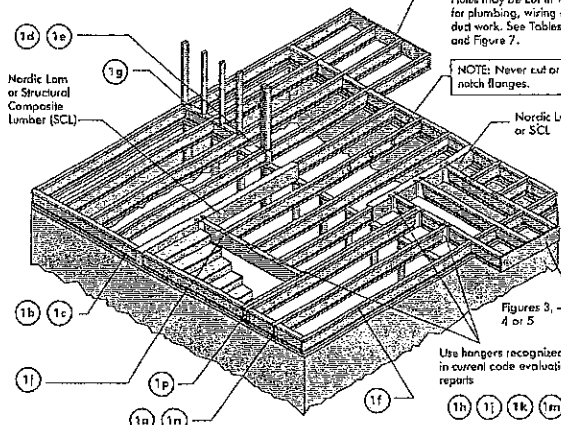


INSTALLING NORDIC I-JOISTS

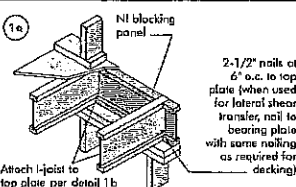
1. Before laying out floor system components, verify that I-joist flange widths match longer widths. If not, contact the supplier.
2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span joists must be level.
5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings.
6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
7. Leave a 1/16-inch gap between the I-joist end and a header.
8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suspend unusual or heavy loads from the I-joist's bottom flange. Whenever possible, suspend off concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist webs.
9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with concrete or masonry.
10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (triple members) to transfer gravity loads through the floor system to the wall or foundation below.
12. Due to shrinkage, common framing lumber set on edge may never be used as blocking or rim boards. I-joist blocking panels or other engineered wood products – such as rim board – must be cut to fit between the I-joists, and an I-joist-compatible depth selected.
13. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension. In the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans.

FIGURE 1
TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

Some framing requirements such as erection bracing and blocking panels have been omitted for clarity.

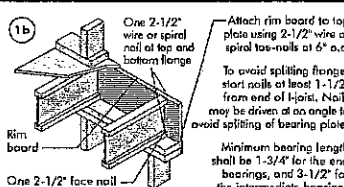


All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" [0.128" dia.] common spiral nails may be substituted for 2-1/2" [0.128" dia.] common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.



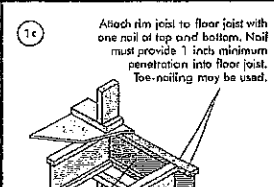
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (p/lf)
Ni Joists	3,500

*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



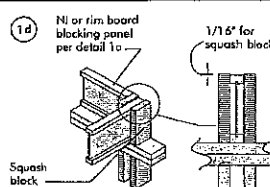
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (p/lf)
1-1/8" Rim Board Plus	6,090

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



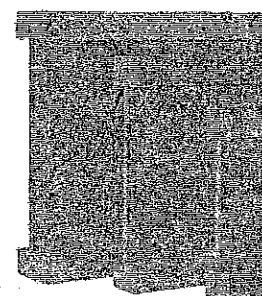
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (p/lf)
1-1/8" Rim Board Plus	6,090

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



Pair of Squash Blocks	Maximum Factored Vertical Load* (p/lf)
2x Lumber	5,500
1-1/8" Rim Board Plus	4,300

*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



MAXIMUM FLOOR SPANS

1. Maximum clear spans applicable to simple-span or multiple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration and live load deflection limit of L/480. For multiple-span applications, the end span shall be 40% or more of the adjacent span.
2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less, or 3/4 inch for joist spacing of 24 inches. Adhesive shall meet the requirements given in CGS-71.26 Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the use of gypsum and/or a row of blocking at mid-span.
3. Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
5. This span chart is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.
6. Tables are based on Limit States Design per CAN/CSA C08-09 Standard, and NBC 2010.
7. SI units conversion: 1 inch = 25.4 mm
1 foot = 0.305 m

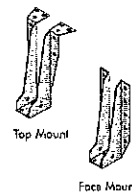
MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS SIMPLE AND MULTIPLE SPANS

Joist Depth	Flange Width	Span (ft)									
		19.2"	24"	30"	36"	42"	48"	54"	60"	66"	72"
2-1/2"	NL-20	15.1'	14.2'	13.5'	12.9'	12.4'	11.9'	11.4'	10.9'	10.4'	9.9'
	NL-40	16.1'	15.2'	14.5'	13.9'	13.4'	12.9'	12.4'	11.9'	11.4'	10.9'
	NL-60	17.1'	16.2'	15.5'	14.9'	14.4'	13.9'	13.4'	12.9'	12.4'	11.9'
	NL-80	18.1'	17.2'	16.5'	15.9'	15.4'	14.9'	14.4'	13.9'	13.4'	12.9'
3-1/2"	NL-20	16.1'	15.0'	14.3'	13.7'	13.2'	12.7'	12.2'	11.7'	11.2'	10.7'
	NL-40	17.1'	16.0'	15.3'	14.7'	14.2'	13.7'	13.2'	12.7'	12.2'	11.7'
	NL-60	18.1'	17.0'	16.3'	15.7'	15.2'	14.7'	14.2'	13.7'	13.2'	12.7'
	NL-80	19.1'	18.0'	17.3'	16.7'	16.2'	15.7'	15.2'	14.7'	14.2'	13.7'
4-1/2"	NL-20	17.1'	15.8'	15.1'	14.5'	14.0'	13.5'	13.0'	12.5'	12.0'	11.5'
	NL-40	18.1'	16.8'	16.1'	15.5'	15.0'	14.5'	14.0'	13.5'	13.0'	12.5'
	NL-60	19.1'	17.8'	17.1'	16.5'	16.0'	15.5'	15.0'	14.5'	14.0'	13.5'
	NL-80	20.1'	18.8'	18.1'	17.5'	17.0'	16.5'	16.0'	15.5'	15.0'	14.5'
5-1/2"	NL-20	18.1'	16.6'	15.9'	15.3'	14.8'	14.3'	13.8'	13.3'	12.8'	12.3'
	NL-40	19.1'	17.6'	16.9'	16.3'	15.8'	15.3'	14.8'	14.3'	13.8'	13.3'
	NL-60	20.1'	18.6'	17.9'	17.3'	16.8'	16.3'	15.8'	15.3'	14.8'	14.3'
	NL-80	21.1'	19.6'	18.9'	18.3'	17.8'	17.3'	16.8'	16.3'	15.8'	15.3'
6-1/2"	NL-20	19.1'	17.4'	16.7'	16.1'	15.6'	15.1'	14.6'	14.1'	13.6'	13.1'
	NL-40	20.1'	18.4'	17.7'	17.1'	16.6'	16.1'	15.6'	15.1'	14.6'	14.1'
	NL-60	21.1'	19.4'	18.7'	18.1'	17.6'	17.1'	16.6'	16.1'	15.6'	15.1'
	NL-80	22.1'	20.4'	19.7'	19.1'	18.6'	18.1'	17.6'	17.1'	16.6'	16.1'
7-1/2"	NL-20	20.1'	18.2'	17.5'	16.9'	16.4'	15.9'	15.4'	14.9'	14.4'	13.9'
	NL-40	21.1'	19.2'	18.5'	17.9'	17.4'	16.9'	16.4'	15.9'	15.4'	14.9'
	NL-60	22.1'	20.2'	19.5'	18.9'	18.4'	17.9'	17.4'	16.9'	16.4'	15.9'
	NL-80	23.1'	21.2'	20.5'	19.9'	19.4'	18.9'	18.4'	17.9'	17.4'	16.9'
8-1/2"	NL-20	21.1'	19.0'	18.3'	17.7'	17.2'	16.7'	16.2'	15.7'	15.2'	14.7'
	NL-40	22.1'	20.0'	19.3'	18.7'	18.2'	17.7'	17.2'	16.7'	16.2'	15.7'
	NL-60	23.1'	21.0'	20.3'	19.7'	19.2'	18.7'	18.2'	17.7'	17.2'	16.7'
	NL-80	24.1'	22.0'	21.3'	20.7'	20.2'	19.7'	19.2'	18.7'	18.2'	17.7'
9-1/2"	NL-20	22.1'	20.0'	19.3'	18.7'	18.2'	17.7'	17.2'	16.7'	16.2'	15.7'
	NL-40	23.1'	21.0'	20.3'	19.7'	19.2'	18.7'	18.2'	17.7'	17.2'	16.7'
	NL-60	24.1'	22.0'	21.3'	20.7'	20.2'	19.7'	19.2'	18.7'	18.2'	17.7'
	NL-80	25.1'	23.0'	22.3'	21.7'	21.2'	20.7'	20.2'	19.7'	19.2'	18.7'
10-1/2"	NL-20	23.1'	21.0'	20.3'	19.7'	19.2'	18.7'	18.2'	17.7'	17.2'	16.7'
	NL-40	24.1'	22.0'	21.3'	20.7'	20.2'	19.7'	19.2'	18.7'	18.2'	17.7'
	NL-60	25.1'	23.0'	22.3'	21.7'	21.2'	20.7'	20.2'	19.7'	19.2'	18.7'
	NL-80	26.1'	24.0'	23.3'	22.7'	22.2'	21.7'	21.2'	20.7'	20.2'	19.7'

ENGINEERING REPORT 2015-04-16

I-JOIST HANGERS

1. Hangers shown illustrate the three most commonly used metal hangers to support I-joists.
2. All nailing must meet the hanger manufacturer's recommendations.
3. Hangers should be selected based on the joist depth, flange width and load capacity based on the maximum spans.
4. Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the I-joist.



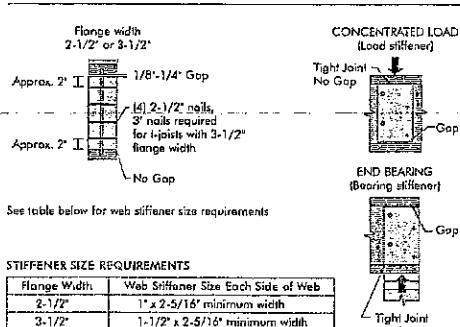
WEB STIFFENERS

RECOMMENDATIONS:

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

SI units conversion: 1 inch = 25.4 mm

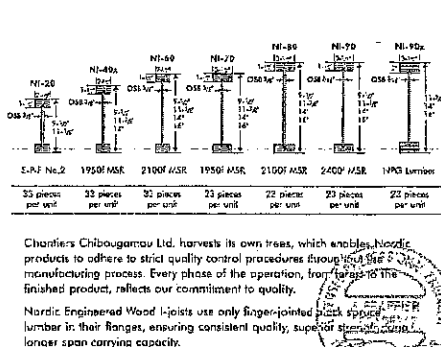
FIGURE 2
WEB STIFFENER INSTALLATION DETAILS



STIFFENER SIZE REQUIREMENTS

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

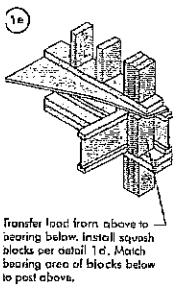
NORDIC I-JOIST SERIES



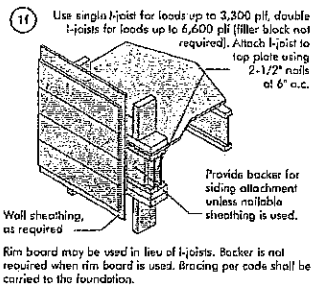
Charlton's Chibougoumou Ltd. harvests its own trees, which enables it to adhere to strict quality control procedures throughout the manufacturing process. Every phase of the operation, from logging to the finished product, reflects our commitment to quality.

Nordic Engineered Wood I-joists use only finger-jointed, kiln-dried lumber in their flanges, ensuring consistent quality, superior structural performance, and longer span carrying capacity.

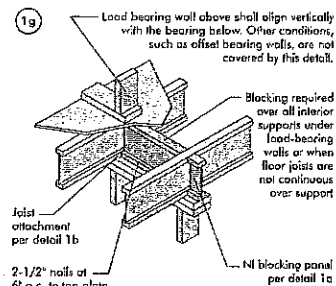
2015-04-16



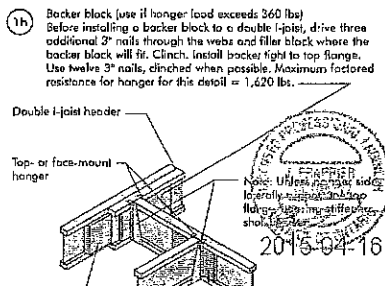
Transfer load from above to bearing below. Install square blocks per detail 1e. Match bearing area of blocks below to post above.



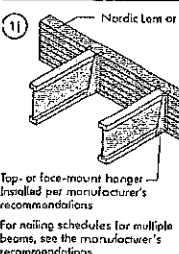
Use single I-joist for loads up to 3,300 plf, double I-joists for loads up to 6,600 plf (filler block not required). Attach I-joist to top plate using 2-1/2" nails at 6" o.c.



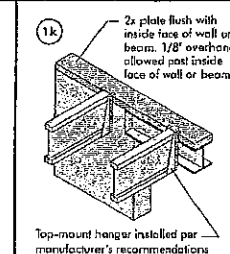
Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by this detail. Blocking required over all interior supports under load-bearing walls or when floor joists are not continuous over support.



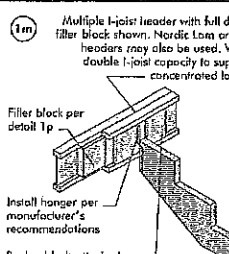
Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" nails through the webs and filler block where the backer block will fit. Clinch. Install backer tight to top flange. Use twelve 3" nails, clinched when possible. Maximum factored resistance for hanger for this detail = 1,620 lbs.



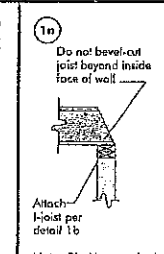
Top- or face-mount hanger. Installed per manufacturer's recommendations.



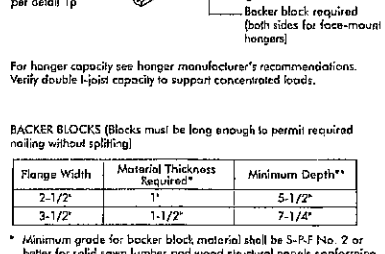
Top-mount hanger installed per manufacturer's recommendations.



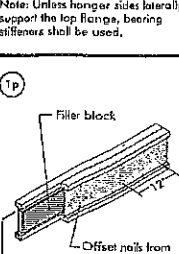
Multiple I-joist header with full depth filler block shown. Nordic Lom or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.



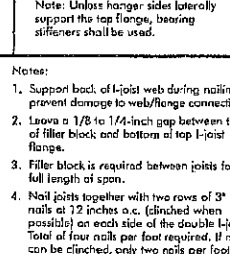
Do not bevel-cut joist beyond inside face of wall. Attach I-joist per detail 1b.



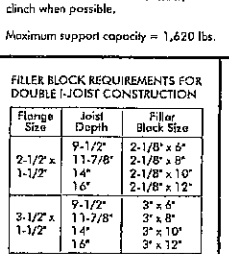
Backer block required (both sides for face-mount hangers).



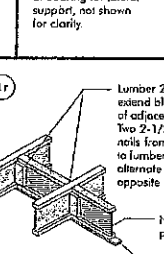
Filler block. 1/8" x 1/4" gap between top flange and filler block.



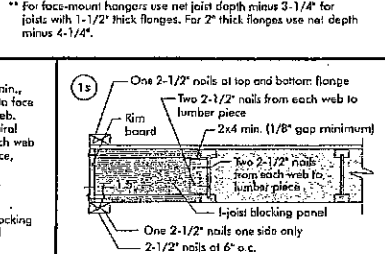
Top- or face-mount hanger. Installed per manufacturer's recommendations.



Filler block. 1/8" x 1/4" gap between top flange and filler block.



Lumber 2x4 min., extend block to face of adjacent web. Two 2-1/2" spiral nails from each web to lumber piece, alternate on opposite side.



One 2-1/2" nails at top and bottom flange. Two 2-1/2" nails from each web to lumber piece. One 2-1/2" nails one side only. 2-1/2" nails at 6" o.c.

Notes:

- 1. Support back of I-joist web during nailing to prevent damage to web/flange connection.
- 2. Leave a 1/8" to 1/4" gap between top of filler block and bottom of top I-joist flange.
- 3. Filler block is required between joists for full length of span.
- 4. Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of four nails per foot required, if nails can be clinched, only two nails per foot are required.
- 5. The maximum factored load that may be applied to one side of the double joist using this detail is 860 lb/ft. Verify double I-joist capacity.

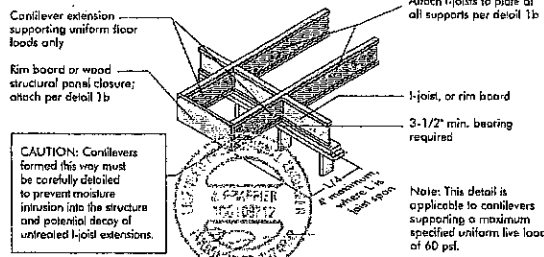
Optional: Minimum 1x4 inch gap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joist.

Notes:

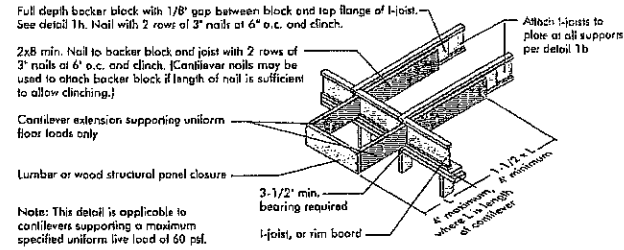
- In some local codes, blocking is prescriptively required in the first joist space for first and second joist space next to the starter joist. Where required, see local code requirements for spacing of the blocking.
- All nails are common spiral in this detail.

CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

3a I-JOIST CANTILEVER DETAIL FOR BALCONIES (No Wall Load)

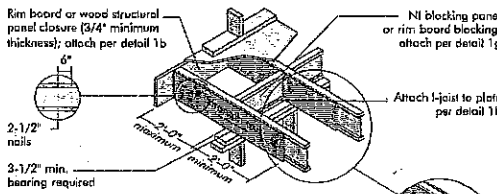


3b LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load)



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

4a Method 1 — SHEATHING REINFORCEMENT ONE SIDE



Method 2 — SHEATHING REINFORCEMENT TWO SIDES

- Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.
- Use nailing pattern shown for Method 1 with opposite face nailing offset by 3".

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.

4b Alternate Method 2 — DOUBLE I-JOIST

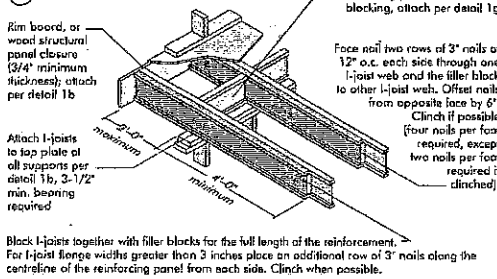
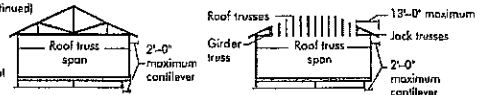


FIGURE 4 (continued)

See table below for NI reinforcement requirements of cantilever.



For hip roofs with the jack trusses running parallel to the cantilevered floor joists, the I-joist reinforcement requirements for a span of 26 ft. shall be permitted to be used.

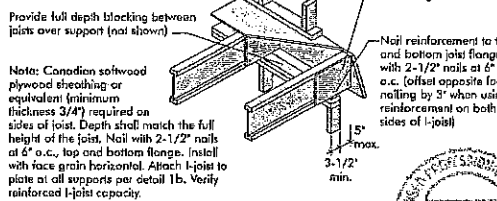
CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST SPAN (ft)	ROOF TRUSS SPAN (ft)		GIRDER TRUSS SPAN (ft)		ROOF TRUSS SPAN (ft)		GIRDER TRUSS SPAN (ft)		ROOF TRUSS SPAN (ft)		GIRDER TRUSS SPAN (ft)	
	12'	16'	20'	24'	12'	16'	20'	24'	12'	16'	20'	24'
12'	N	N	N	N	N	N	N	N	N	N	N	N
14'	N	N	N	N	N	N	N	N	N	N	N	N
16'	N	N	N	N	N	N	N	N	N	N	N	N
18'	N	N	N	N	N	N	N	N	N	N	N	N
20'	N	N	N	N	N	N	N	N	N	N	N	N
22'	N	N	N	N	N	N	N	N	N	N	N	N
24'	N	N	N	N	N	N	N	N	N	N	N	N
26'	N	N	N	N	N	N	N	N	N	N	N	N
28'	N	N	N	N	N	N	N	N	N	N	N	N
30'	N	N	N	N	N	N	N	N	N	N	N	N
32'	N	N	N	N	N	N	N	N	N	N	N	N
34'	N	N	N	N	N	N	N	N	N	N	N	N
36'	N	N	N	N	N	N	N	N	N	N	N	N
38'	N	N	N	N	N	N	N	N	N	N	N	N
40'	N	N	N	N	N	N	N	N	N	N	N	N

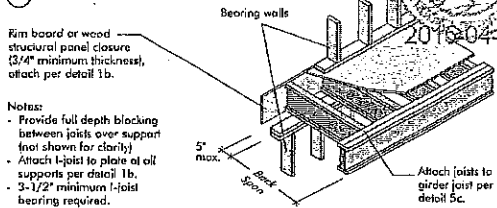
- N = No reinforcement required.
- NI = NI reinforced with 3/4" wood structural panel on one side only.
- X = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- Try a deeper joist or closer spacing.
- Maximum design load shall be: 15 psf roof dead load, 55 psf floor total load, and 60 psf wall load. Wall load is based on 3'-0" maximum width window or door openings.
- For larger openings, or multiple 3'-0" wide openings spaced less than 6'-0" o.c., additional joists beneath the opening's cripple studs may be required.
- Table applies to joists 12" to 24" o.c. that meet the floor 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. Use 12" o.c. requirements for lesser spacing.
- For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
- Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

5a SHEATHING REINFORCEMENT



5b SET-BACK DETAIL



5c SET-BACK CONNECTION

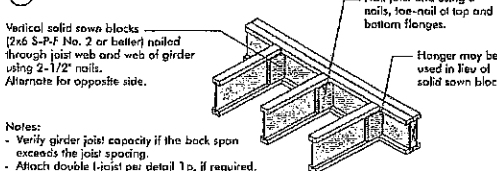
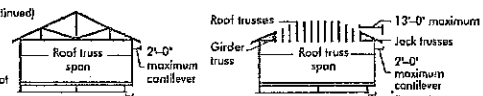


FIGURE 5 (continued)

See table below for NI reinforcement requirements of cantilever.



For hip roofs with the jack trusses running parallel to the cantilevered floor joists, the I-joist reinforcement requirements for a span of 26 ft. shall be permitted to be used.

BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST SPAN (ft)	ROOF TRUSS SPAN (ft)		GIRDER TRUSS SPAN (ft)		ROOF TRUSS SPAN (ft)		GIRDER TRUSS SPAN (ft)		ROOF TRUSS SPAN (ft)		GIRDER TRUSS SPAN (ft)	
	12'	16'	20'	24'	12'	16'	20'	24'	12'	16'	20'	24'
12'	N	N	N	N	N	N	N	N	N	N	N	N
14'	N	N	N	N	N	N	N	N	N	N	N	N
16'	N	N	N	N	N	N	N	N	N	N	N	N
18'	N	N	N	N	N	N	N	N	N	N	N	N
20'	N	N	N	N	N	N	N	N	N	N	N	N
22'	N	N	N	N	N	N	N	N	N	N	N	N
24'	N	N	N	N	N	N	N	N	N	N	N	N
26'	N	N	N	N	N	N	N	N	N	N	N	N
28'	N	N	N	N	N	N	N	N	N	N	N	N
30'	N	N	N	N	N	N	N	N	N	N	N	N
32'	N	N	N	N	N	N	N	N	N	N	N	N
34'	N	N	N	N	N	N	N	N	N	N	N	N
36'	N	N	N	N	N	N	N	N	N	N	N	N
38'	N	N	N	N	N	N	N	N	N	N	N	N
40'	N	N	N	N	N	N	N	N	N	N	N	N

- N = No reinforcement required.
- NI = NI reinforced with 3/4" wood structural panel on one side only.
- X = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- Try a deeper joist or closer spacing.
- Maximum design load shall be: 15 psf roof dead load, 55 psf floor total load, and 60 psf wall load. Wall load is based on 3'-0" maximum width window or door openings.
- For larger openings, or multiple 3'-0" wide openings spaced less than 6'-0" o.c., additional joists beneath the opening's cripple studs may be required.
- Table applies to joists 12" to 24" o.c. that meet the floor 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. Use 12" o.c. requirements for lesser spacing.
- For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
- Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

1c

NI blocking panel

Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
NI Joists	3,300

*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

Attach I-joist to top plate per detail 1b

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)

1b

Rim board

Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
1-1/8" Rim Board Plus	8,090

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

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

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

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

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

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

1d

NI or rim board blocking panel per detail 1c

+ 1/16" for squash blocks

Pair of Squash Blocks	Maximum Factored Vertical Load per Pair of Squash Blocks (lbs)	
	3-1/2" wide	5-1/2" wide
2x Lumber	5,500	8,500
1-1/8" Rim Board Plus	4,300	6,600

Provide lateral bracing per detail 1a or 1b

1e

Transfer load from above to bearing below. Install squash blocks per detail 1d. Match bearing area of blocks below to post above.

1g

Joist attachment per detail 1b

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

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

Blocking required over all interior supports under load-bearing walls or when floor joists are not continuous over support

NI blocking panel per detail 1a

1h

Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a 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 when possible. Maximum factored resistance for hanger for this detail = 1,620 lbs.

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

Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

* Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-O325 or CAN/CSA-O437 Standard.

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

1i

Top- or face-mount hanger

Double I-joist header

NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

Filler block per detail 1p

Backer block required (both sides for face-mount hangers)

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

1j

Nordic Lam or Structural Composite Lumber (SCL)

For nailing schedules for multiple beams, see the manufacturer's recommendations.

Top- or face-mount hanger installed per manufacturer's recommendations

NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

1k

2x plate flush with inside face of wall or beam. 1/8" overhang allowed past inside face of wall or beam.

NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

Top-mount hanger installed per manufacturer's recommendations

1m

Multiple I-joist header with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

Backer block attached per detail 1h. Nail with twelve 3" nails, clinch when possible.

Filler block per detail 1p

Install hanger per manufacturer's recommendations

Maximum support capacity = 1,620 lbs.

1n

Do not bevel-cut joist beyond inside face of wall

Attach I-joist per detail 1b

NOTE: Blocking required at bearing for lateral support, not shown for clarity.

1r

Lumber 2x4 min., extend block to face of adjacent web. Two 2-1/2" spiral nails from each web to lumber piece, alternate on opposite side.

NI blocking panel

OPTIONAL: Minimum 1x4 inch strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists.

1p FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

Filler block

Offset nails from opposite face by 6"

1/8" to 1/4" gap between top flange and filler block

- NOTES:**
- Support back of I-joist web during nailing to prevent damage to web/flange connection.
 - Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top I-joist flange.
 - Filler block is required between joists for full length of span.
 - Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of four nails per foot required. If nails can be clinched, only two nails per foot are required.
 - The maximum factored load that may be applied to one side of the double joist using this detail is 860 lb/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"
3-1/2" x 1-1/2"	9-1/2" 11-7/8" 14" 16"	3" x 6" 3" x 8" 3" x 10" 3" x 12"
3-1/2" x 2"	11-7/8" 14" 16"	3" x 7" 3" x 9" 3" x 11"

1s

Rim board

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

2x4 min. (1/8" gap minimum)

Two 2-1/2" nails from each web to lumber piece

I-joist blocking panel

One 2-1/2" nail one side only

2-1/2" nails at 6" o.c.

NOTES:

- In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of the blocking.
- All nails are common spiral in this detail.

All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3/16 (1/12" dia.) common spiral nails may be substituted for 2-1/2" (d1/2" dia.) common wire nails framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.

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 the top.
- A bearing stiffener is required when the I-joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the top flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a factored concentrated load greater than 2,870 lbs is applied to the top flange between supports, or in the case of a convener, anywhere between the convener 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.

FIGURE 2 WEB STIFFENER INSTALLATION DETAILS

CONCENTRATED LOAD (Load stiffener)

Flange width 2-1/2" or 3-1/2"

Approx. 2" I

1/8"-1/4" Gap

(4) 2-1/2" nails, 3" nails required for I-joists with 3-1/2" flange width

No Gap

END BEARING (Bearing stiffener)

Gap

Tight Joint No Gap

Gap

Tight Joint No Gap

STIFFENER SIZE REQUIREMENTS

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

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

Method 1 — SHEATHING REINFORCEMENT ONE SIDE

Rim board or wood structural panel closure (3/4" minimum thickness); attach per detail 1b

NI blocking panel or rim board blocking, attach per detail 1g

Attach I-joist to plate per detail 1b

2-1/2" nails

3-1/2" min. bearing required

Method 2 — SHEATHING REINFORCEMENT TWO SIDES

Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.

Use nailing pattern shown for Method 1 with opposite face nailing offset by 3".

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

Rim Board Joint Between Floor Joists

2-1/2" nails at 6" o.c. (typical)

Rim board joint

2-1/2" toe-nails at 6" o.c. (typical)

Rim Board Joint at Corner

2-1/2" nails

Rim board joint

1-1/2"

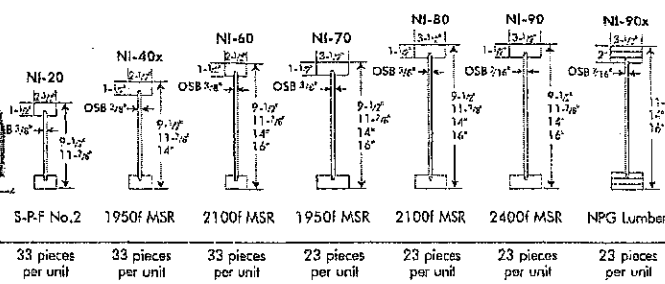
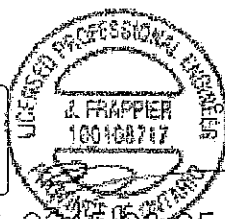
1-1/2"

Rim board

Top or sole plate

30°

6/8"



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



Do not walk on I-joists until fully fastened and braced, or serious injuries can result.



Never stack building material over unsheathed I-joists. Once sheathed, do not over-stress I-joists with concentrated loads from building materials.