

FROM PLAN DATED: NOV. 2015

BUILDER:
BAYVIEW WELLINGTON

SITE:
ALCONA

MODEL: S32-8 ~ 15"

ELEVATION: A,B

LOT:

CITY: INNISFIL, ON

SALESMAN: MARIO
DESIGNER: CZ
REVISION: -

NOTES:
CERAMIC TILE APPLICATION
AS PER O.B.C. 9.30.6.
SQUASH BLOCKS
2x4 OR 2x6 #2 S.P.F. REQ'D UNDER
INTERIOR UNIFORM LOAD BEARING
WALLS.

MULTIPLE SQUASH BLOCKS REQ'D
UNDER CONCENTRATED LOADS.
CANTILEVERED JOISTS
REQUIRE I-JOIST BLOCKING ALONG
BEARING AND RIMBOARD CLOSURE
AT ENDS.

REFER TO THE NORDIC
INSTALLATION GUIDE FOR PROPER
STORAGE AND INSTALLATION.

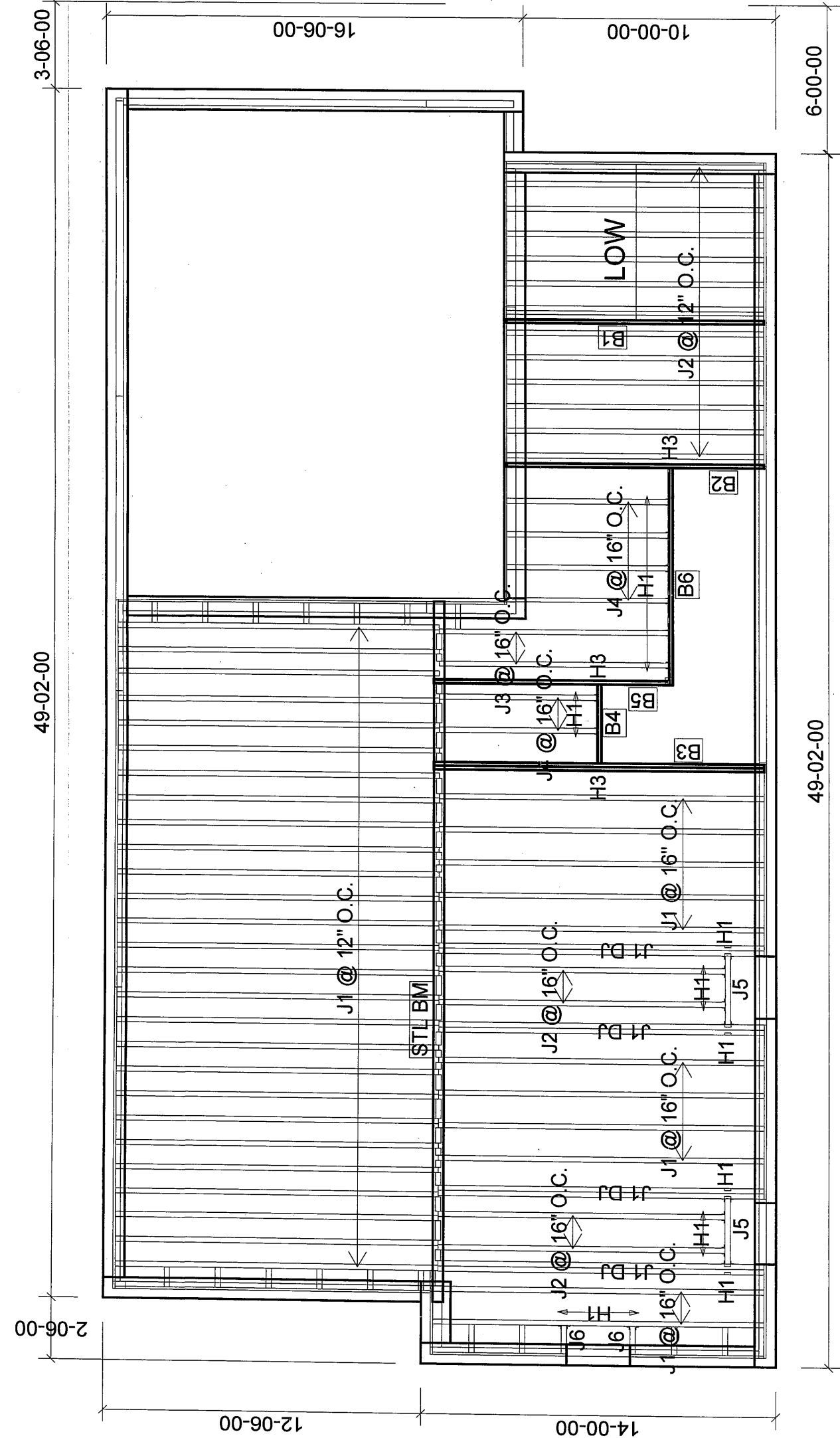
LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft
TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 07/09/2017

1st FLOOR

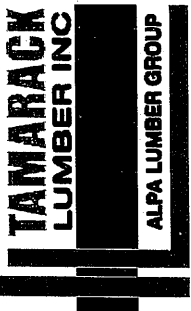
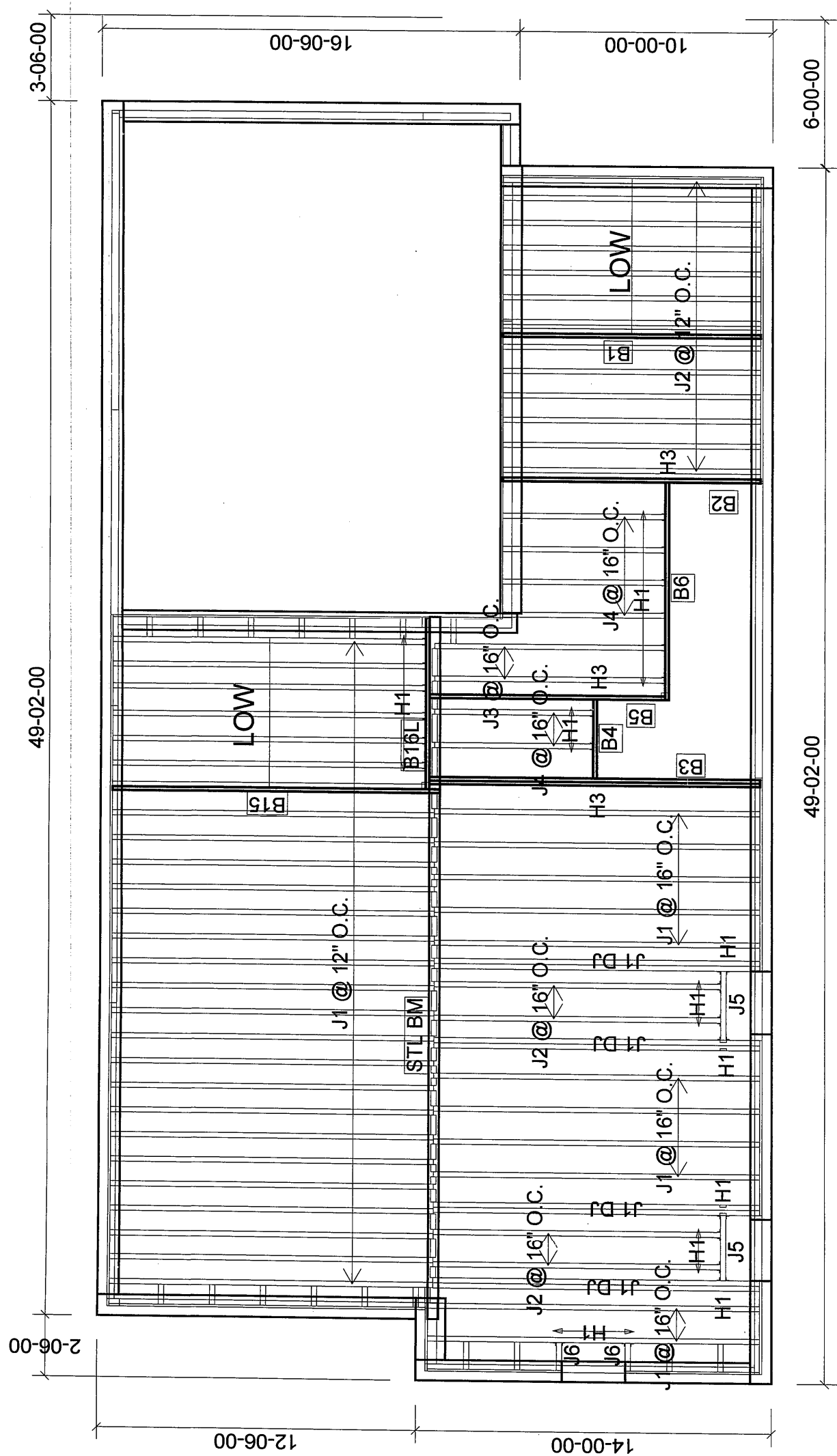
STANDARD



Products				
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	38
J1 DJ	14-00-00	9 1/2" NI-40x	2	8
J2	12-00-00	9 1/2" NI-40x	1	18
J3	10-00-00	9 1/2" NI-40x	1	2
J4	8-00-00	9 1/2" NI-40x	1	6
J5	4-00-00	9 1/2" NI-40x	1	2
J6	2-00-00	9 1/2" NI-40x	1	2
B3	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B1	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B2	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
8	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10

Town of Innisfil Certified Model
14/02/2018 10:27:53 AM kgervais



FROM PLAN DATED: NOV. 2015

BUILDER:
BAYVIEW WELLINGTON

SITE:
ALCONA

MODEL: S32-8 -15

ELEVATION: A,B

LOT:

CITY: INNISFIL, ON

SALESMAN: MARIO
DESIGNER: CZ
REVISION: -

NOTES:
CERAMIC TILE APPLICATION
AS PER O.B.C. 9.30.6.
SQUASH BLOCKS
2x4 OR 2x6 #2 S.P.F. REQ'D UNDER
INTERIOR UNIFORM LOAD BEARING
WALLS.

MULTIPLE SQUASH BLOCKS REQ'D
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CANTILEVERED JOISTS
REQUIRE I-JOIST BLOCKING ALONG
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AT ENDS.
REFER TO THE NORDIC
INSTALLATION GUIDE FOR PROPER
STORAGE AND INSTALLATION.

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft
TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

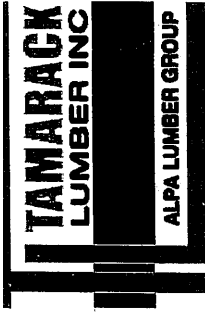
DATE: 07/09/2017

1st FLOOR

SUNKEN

Connector Summary		
Qty	Manuf	Product
14	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10

Products			
PlotID	Length	Product	Plies Net Qty
J1	14-00-00	9 1/2" NI-40x	1 38
J1 DJ	14-00-00	9 1/2" NI-40x	2 8
J2	12-00-00	9 1/2" NI-40x	1 18
J3	10-00-00	9 1/2" NI-40x	1 2
J4	8-00-00	9 1/2" NI-40x	1 6
J5	4-00-00	9 1/2" NI-40x	1 2
J6	2-00-00	9 1/2" NI-40x	1 2
B15	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1 1
B3	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2 2
B1	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1 1
B2	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1 1
B5	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1 1
B6	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1 1
B16L	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1 1
B4	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1 1



FROM PLAN DATED: NOV. 2015

BUILDER:
BAYVIEW WELLINGTON

SITE:
ALCONA

MODEL: S32-8-15

ELEVATION: A,B

LOT:

CITY: INNISFIL, ON

SALESMAN: MARIO

DESIGNER: CZ

REVISION: -

NOTES:

CERAMIC TILE APPLICATION
AS PER O.B.C. 9.30.6.

SQUASH BLOCKS

2x4 OR 2x6 #2 S.P.F. REQ'D UNDER
INTERIOR UNIFORM LOAD BEARING
WALLS.

MULTIPLE SQUASH BLOCKS REQ'D
UNDER CONCENTRATED LOADS.

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REQUIRE I-JOIST BLOCKING ALONG
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AT ENDS.

REFER TO THE NORDIC
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LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft

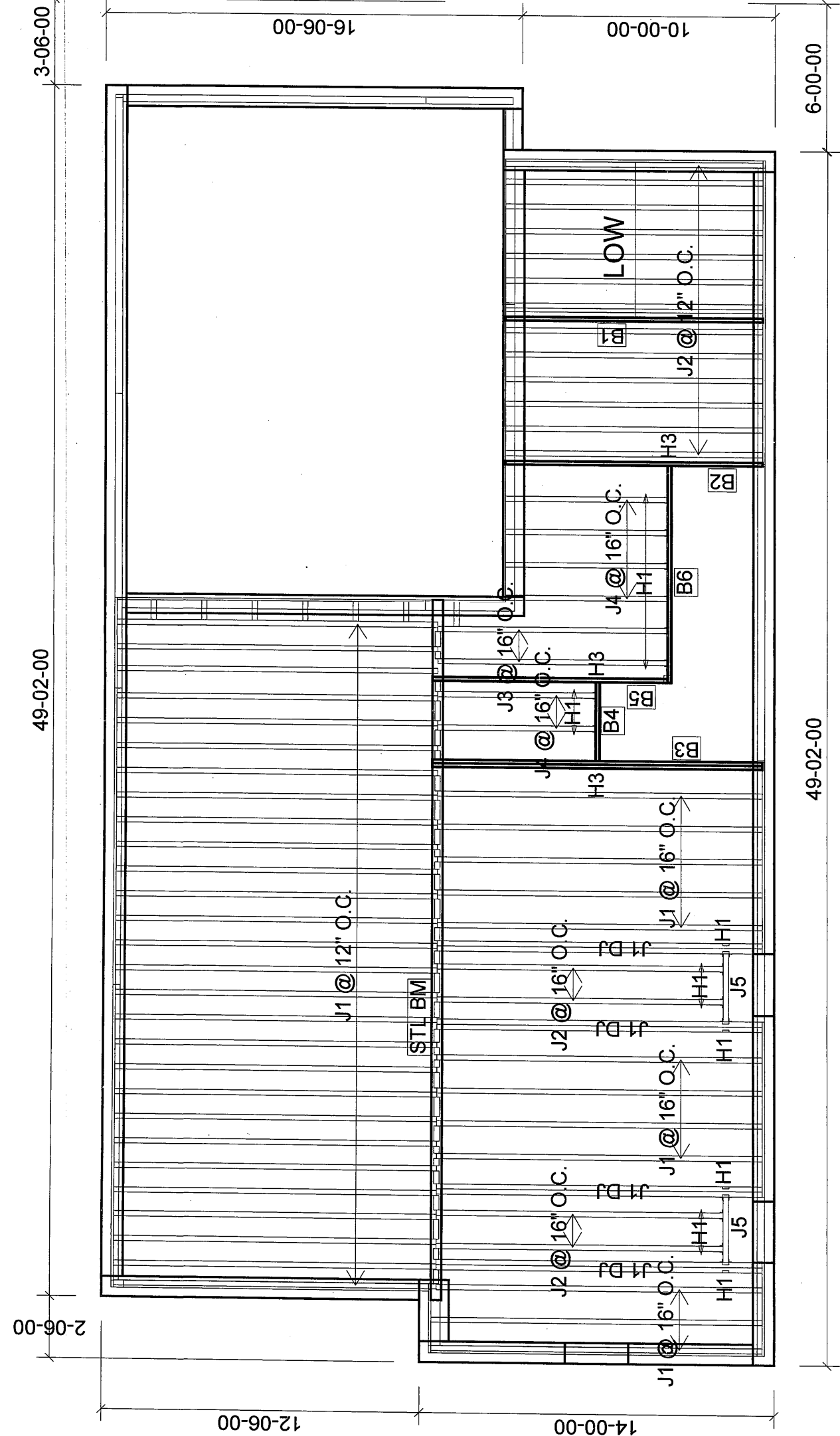
TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 07/09/2017

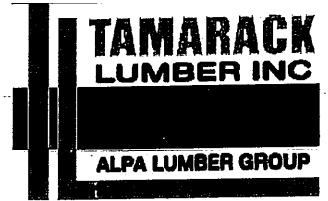
1st FLOOR

WOD



Products					Connector Summary	
PlotID	Length	Product	Plies	Net Qty	Qty	Product
J1	14-00-00	9 1/2" NI-40x	1	40	8	IUS2.56/9.5
J1 DJ	14-00-00	9 1/2" NI-40x	2	8	4	IUS2.56/9.5
J2	12-00-00	9 1/2" NI-40x	1	18	4	IUS2.56/9.5
J3	10-00-00	9 1/2" NI-40x	1	2	2	HUS1.81/10
J4	8-00-00	9 1/2" NI-40x	1	6	1	HUS1.81/10
J5	4-00-00	9 1/2" NI-40x	1	2		
B3	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2		
B1	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1		
B2	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1		
B5	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1		
B6	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1		
B4	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1		

Town of Innisfil Certified Model
14/02/2018 10:27:58 AM kgervais



FROM PLAN DATED: NOV. 2015

BUILDER:
BAYVIEW WELLINGTON

SITE:
ALCONA

MODEL: S32-8-15

ELEVATION: A,B

LOT:
CITY: INNISFIL, ON

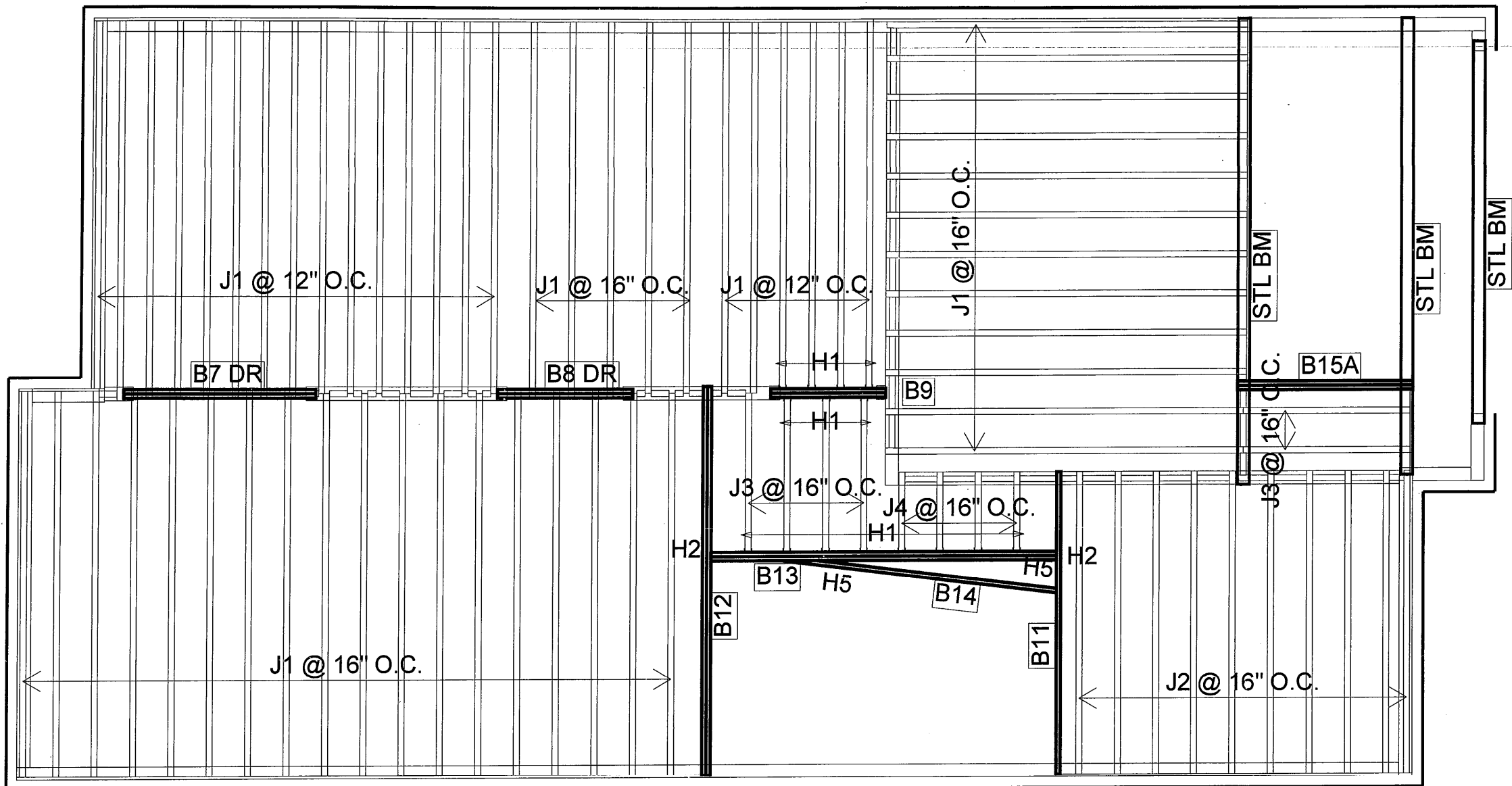
SALESMAN: MARIO
DESIGNER: CZ
REVISION: -

NOTES:
CERAMIC TILE APPLICATION
AS PER O.B.C. 9.30.6.
SQUASH BLOCKS
2x4 OR 2x6 #2 S.P.F. REQ'D UNDER
INTERIOR UNIFORM LOAD BEARING
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LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft
TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 07/09/2017



Products				
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	56
J2	12-00-00	9 1/2" NI-40x	1	10
J3	6-00-00	9 1/2" NI-40x	1	6
J4	4-00-00	9 1/2" NI-40x	1	4
B12	14-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B15A	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B7 DR	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B8 DR	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
15	H1	IUS2.56/9.5
1	H2	HGUS410
1	H2	HGUS410
1	H5	LS 90
1	H5	LS 90

Town of Innisfil Certified Model
14/02/2018 10:28:00 AM kgervais

2nd FLOOR

BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmd-ELA.mmd

Description: Designs\Flush Beams\Basement\Flush Beams\B1(i669)

Specifier:

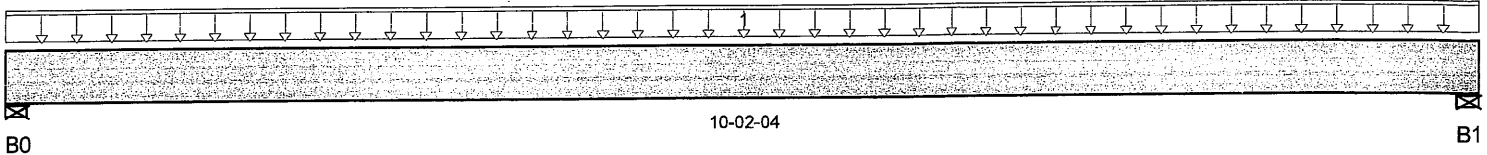
Designer:

Company:

Misc:

Town of Innisfil Certified Model

14/02/2018 10:28:04 AM kgervais



Total Horizontal Product Length = 10-02-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 2-3/8"	65 / 0	56 / 0		
B1, 4-3/8"	67 / 0	58 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1 FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-02-04	13	6	1.00	1.15	n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	398 ft-lbs	12,704 ft-lbs	3.1%	1	05-00-02
End Shear	135 lbs	5,785 lbs	2.3%	1	00-11-14
Total Load Defl.	L/999 (0.02")	n/a	n/a	4	05-00-02
Live Load Defl.	L/999 (0.011")	n/a	n/a	5	05-00-02
Max Defl.	0.02"	n/a	n/a	4	05-00-02
Span / Depth	12.3	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	2-3/8" x 1-3/4"	168 lbs	9.4%	3.3%	Unspecified
B1 Wall/Plate	4-3/8" x 1-3/4"	173 lbs	5.3%	1.9%	Unspecified

Notes

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

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

Calculations assume Member is Fully Braced.

Resistance Factor phi has been applied to all presented results per CSA 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 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012

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.



DWG NO. YAM 45464-17
STRUCTURAL
COMPONENT ONLY

BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B2(i685)

Specifier:

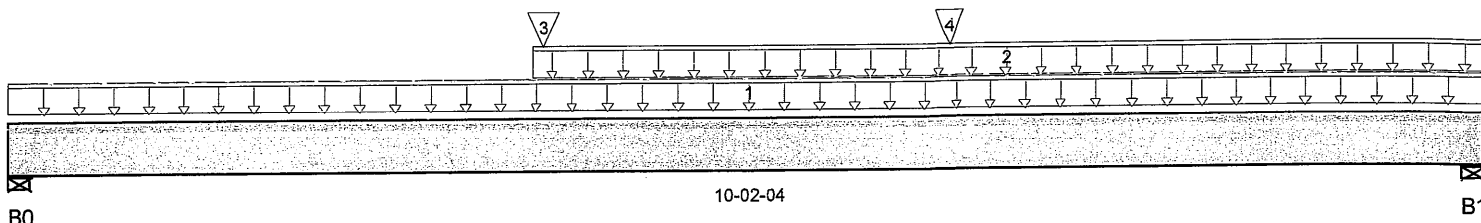
Designer:

Company:

Misc:

Town of Innisfil Certified Model

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Total Horizontal Product Length = 10-02-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 2-3/8"	647 / 0	361 / 0		
B1, 4-3/8"	537 / 0	301 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1 FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-02-04	8	4			n/a
2 FC1 Floor Material	Unf. Lin. (lb/ft)	L	03-07-06	10-02-04	29	14			n/a
3 B6(i699)	Conc. Pt. (lbs)	L	03-08-04	03-08-04	786	414			n/a
4 FC1 Floor Material	Conc. Pt. (lbs)	L	06-05-15	06-05-15	118	59			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,853 ft-lbs	12,704 ft-lbs	38.2%	1	03-08-04
End Shear	1,392 lbs	5,785 lbs	24.1%	1	00-11-14
Total Load Defl.	L/571 (0.205")	0.488"	42%	4	04-09-15
Live Load Defl.	L/884 (0.132")	0.325"	40.7%	5	04-09-15
Max Defl.	0.205"	n/a	n/a	4	04-09-15
Span / Depth	12.3	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	2-3/8" x 1-3/4"	1,421 lbs	80%	28%	Unspecified
B1 Wall/Plate	4-3/8" x 1-3/4"	1,182 lbs	36.2%	12.7%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume Member is Fully Braced.
 Resistance Factor phi has been applied to all presented results per CSA 086.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9
 Deflections less than 1/8" were ignored in the results.

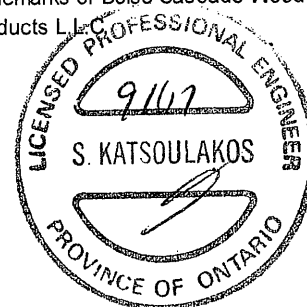
CONFORMS TO OBC 2012

DWG NO. TAM 45465-17
 STRUCTURAL
 COMPONENT ONLY

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 LLC.



BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs/Flush Beams/Basement/Flush Beams/B3(i668)

Specifier:

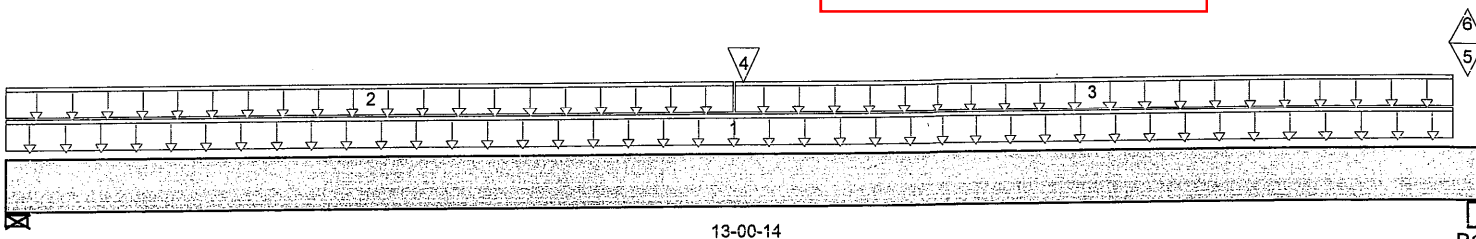
Designer:

Company:

Misc:

Town of Innisfil Certified Model

14/02/2018 10:28:09 AM kgervais



13-00-14

B0

B1

Total Horizontal Product Length = 13-00-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 2-3/8"	476 / 0	304 / 0		
B1, 5"	1,009 / 46	656 / 0		

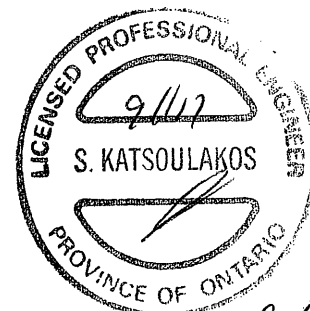
Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	12-10-06	25	12			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	06-05-06	6	3			n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	06-05-06	12-10-06	29	14			n/a
4	B4(i700)	Conc. Pt. (lbs)	L	06-06-04	06-06-04	496	256			n/a
5	7(i134)	Conc. Pt. (lbs)	L	12-11-10	12-11-10	450	309			n/a
6	7(i134)	Conc. Pt. (lbs)	L	12-11-10	12-11-10	-46				n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,349 ft-lbs	25,408 ft-lbs	21.1%	1	06-06-04
End Shear	1,144 lbs	11,571 lbs	9.9%	1	11-10-06
Total Load Defl.	L/797 (0.189")	0.629"	30.1%	6	06-06-04
Live Load Defl.	L/999 (0.118")	n/a	n/a	8	06-06-04
Max Defl.	0.189"	n/a	n/a	6	06-06-04
Span / Depth	15.9	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	2-3/8" x 3-1/2"	1,093 lbs	30.8%	10.8%	Unspecified
B1 Beam	5" x 3-1/2"	2,334 lbs	31.2%	10.9%	Unspecified

Notes



P6 1/2

BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B3(i66

Specifier:

Designer:

Company:

Misc:

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

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

Calculations assume Member is Fully Braced.

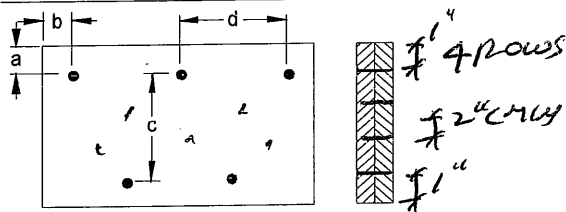
Resistance Factor phi has been applied to all presented results per CSA086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA086.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012**Connection Diagram**

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

Calculated Side Load = 84.3 lb/ft

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

Connectors are: Nails

3 1/2" ARDOX SPIRAL

Disclosure

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Town of Innisfil Certified Model

14/02/2018 10:28:11 AM kgervais



DWG NO. TAM 45466-17
 STRUCTURAL
 COMPONENT ONLY



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELAmmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B4(i700)

Specifier:

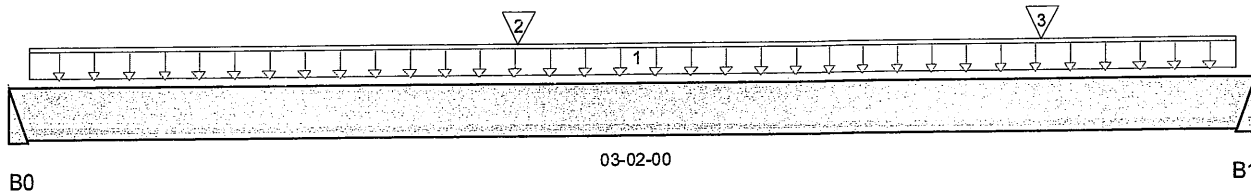
Designer:

Company:

Msc:

Town of Innisfil Certified Model

14/02/2018 10:28:14 AM kgervais



Total Horizontal Product Length = 03-02-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0	492 / 0	254 / 0		
B1	548 / 0	282 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	User Load	Unf. Lin. (lb/ft)	L	00-00-10	03-01-08	240	120			n/a
2	J5(i786)	Conc. Pt. (lbs)	L	01-03-08	01-03-08	178	89			n/a
3	J5(i702)	Conc. Pt. (lbs)	L	02-07-08	02-07-08	125	63			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	860 ft-lbs	12,704 ft-lbs	6.8%	1	01-04-09
End Shear	588 lbs	5,785 lbs	10.2%	1	00-11-08
Total Load Defl.	L/999 (0.004")	n/a	n/a	4	01-06-15
Live Load Defl.	L/999 (0.002")	n/a	n/a	5	01-06-15
Max Defl.	0.004"	n/a	n/a	4	01-06-15
Span / Depth	3.7	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Hanger	2" x 1-3/4"	1,056 lbs	n/a	24.7%	HUS1.81/10
B1 Hanger	2" x 1-3/4"	1,174 lbs	n/a	27.5%	HUS1.81/10

Notes

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

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

Calculations assume Member is Fully Braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA 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 9

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.

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CONFORMS TO OBC 2012





Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B5(i705)

Specifier:

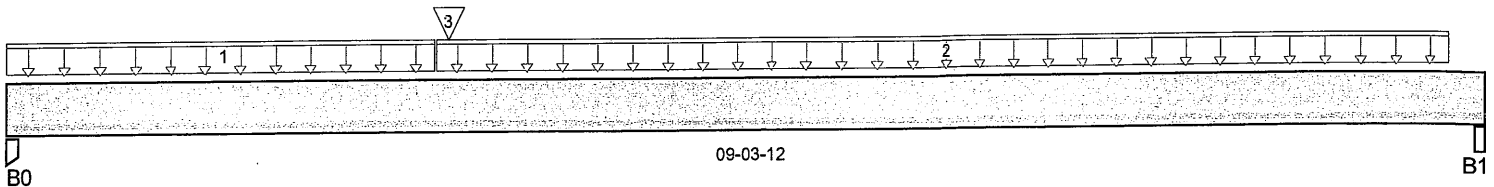
Designer:

Company:

Misc:

Town of Innisfil Certified Model

14/02/2018 10:28:17 AM kgervais



Total Horizontal Product Length = 09-03-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 1-3/4"	475 / 0	265 / 0		
B1, 5"	282 / 0	167 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	02-08-04	16	8			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	02-08-04	09-01-04	27	13			n/a
3	B4(i700)	Conc. Pt. (lbs)	L	02-09-02	02-09-02	544	280			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,645 ft-lbs	12,704 ft-lbs	20.8%	1	02-09-02
End Shear	1,007 lbs	5,785 lbs	17.4%	1	00-11-04
Total Load Defl.	L/999 (0.09")	n/a	n/a	4	04-02-03
Live Load Defl.	L/999 (0.058")	n/a	n/a	5	04-02-03
Max Defl.	0.09"	n/a	n/a	4	04-02-03
Span / Depth	11.2	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Post	1-3/4" x 1-3/4"	1,045 lbs	52.5%	28%	Unspecified
B1 Beam	5" x 1-3/4"	631 lbs	16.9%	5.9%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume Member is Fully Braced.
 Resistance Factor phi has been applied to all presented results per CSA 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 9
 Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012

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.

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BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B6(i699)

Specifier:

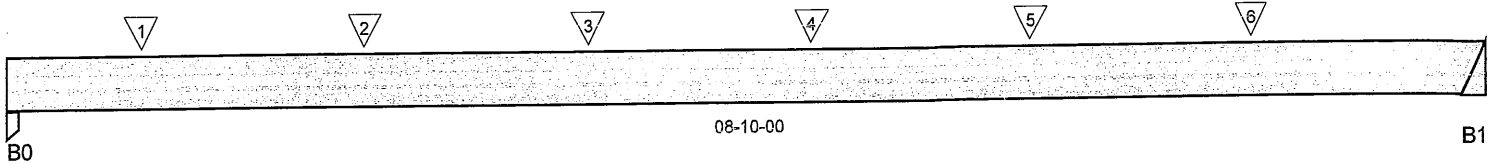
Designer:

Company:

Msc:

Town of Innisfil Certified Model

14/02/2018 10:28:19 AM kgervais



Total Horizontal Product Length = 08-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	739 / 0	391 / 0		
B1	794 / 0	418 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1 J4(i701)	Conc. Pt. (lbs)	L	00-09-08	00-09-08	194	97			n/a
2 J4(i707)	Conc. Pt. (lbs)	L	02-01-08	02-01-08	247	123			n/a
3 J5(i696)	Conc. Pt. (lbs)	L	03-05-08	03-05-08	171	86			n/a
4 J5(i692)	Conc. Pt. (lbs)	L	04-09-08	04-09-08	218	109			n/a
5 J5(i698)	Conc. Pt. (lbs)	L	06-01-08	06-01-08	342	171			n/a
6 J5(i695)	Conc. Pt. (lbs)	L	07-05-08	07-05-08	361	180			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,685 ft-lbs	12,704 ft-lbs	29%	1	04-09-08
End Shear	1,707 lbs	5,785 lbs	29.5%	1	07-10-08
Total Load Defl.	L/757 (0.135")	0.425"	31.7%	4	04-06-08
Live Load Defl.	L/999 (0.088")	n/a	n/a	5	04-06-08
Max Defl.	0.135"	n/a	n/a	4	04-06-08
Span / Depth	10.7	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Post	3-1/2" x 1-3/4"	1,597 lbs	40.1%	21.4%	Unspecified
B1 Hanger	2" x 1-3/4"	1,713 lbs	n/a	40.1%	HUS1.81/10

Notes

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

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

Calculations assume Member is Fully Braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA 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 9

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.

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DWG NO. TAM 45469-17
STRUCTURAL
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BC CALC® Design Report


Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELAmmdl

Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B7

Specifier:

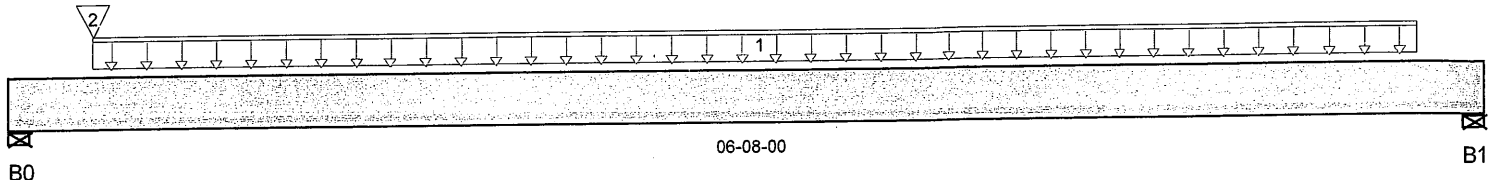
Designer:

Company:

Msc:

Town of Innisfil Certified Model

14/02/2018 10:28:21 AM kgervais



Total Horizontal Product Length = 06-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 4"	1,659 / 0	863 / 0		
B1, 4"	1,520 / 0	794 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1 Smoothed Load	Unf. Lin. (lb/ft)	L	00-04-08	06-04-08	474	237			n/a
2 J1(i775)	Conc. Pt. (lbs)	L	00-04-08	00-04-08	338	169			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,116 ft-lbs	25,408 ft-lbs	20.1%	1	03-00-08
End Shear	2,885 lbs	11,571 lbs	24.9%	1	05-06-08
Total Load Defl.	L/999 (0.049")	n/a	n/a	4	03-04-04
Live Load Defl.	L/999 (0.032")	n/a	n/a	5	03-04-04
Max Defl.	0.049"	n/a	n/a	4	03-04-04
Span / Depth	7.7	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	4" x 3-1/2"	3,567 lbs	39.2%	20.9%	Unspecified
B1 Wall/Plate	4" x 3-1/2"	3,272 lbs	36%	19.2%	Unspecified

Notes

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

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

Calculation assumes member is partially braced. See engineering report for the unbraced length.

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 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012

 DWG NO. TAM 45472-17
**STRUCTURAL
 COMPONENT ONLY**

BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

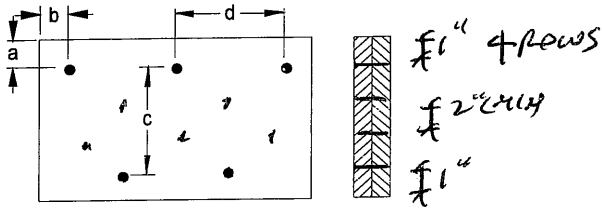
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B

Specifier:

Designer:

Company:

Misc:

Connection Diagram

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

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

Member has no side loads.

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of 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.

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DWG NO. TAM 45470-17
 STRUCTURAL
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BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

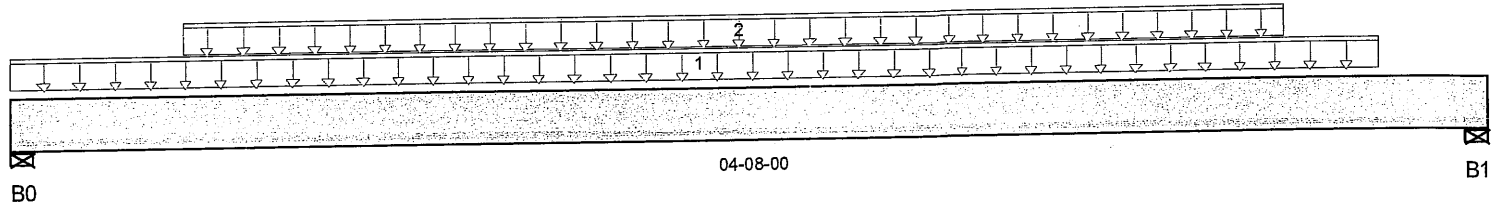
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B8

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 04-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 4"	1,027 / 0	676 / 0		
B1, 4"	983 / 0	634 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1 User Load	Unf. Lin. (lb/ft)	L	00-00-00	04-04-00		60			n/a
2 Smoothed Load	Unf. Lin. (lb/ft)	L	00-06-08	04-00-08	574	287			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,519 ft-lbs	25,408 ft-lbs	9.9%	1	02-06-08
End Shear	1,907 lbs	11,571 lbs	16.5%	1	01-01-08
Total Load Defl.	L/999 (0.011")	n/a	n/a	4	02-04-04
Live Load Defl.	L/999 (0.007")	n/a	n/a	5	02-04-04
Max Defl.	0.011"	n/a	n/a	4	02-04-04
Span / Depth	5.2	n/a	n/a		00-00-00

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14/02/2018 10:28:27 AM kgervais

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	4" x 3-1/2"	2,386 lbs	26.2%	14%	Unspecified
B1 Wall/Plate	4" x 3-1/2"	2,267 lbs	24.9%	13.3%	Unspecified

Notes

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

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

Calculation assumes member is partially braced. See engineering report for the unbraced length.

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 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012

DWG NO. TAM 45471-17

STRUCTURAL

COMPONENT ONLY

BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B

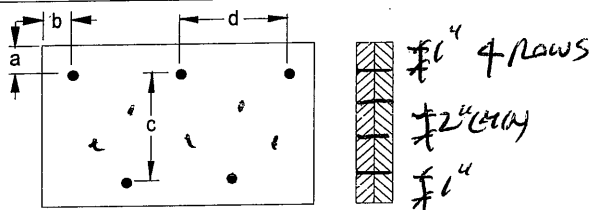
Specifier:

Designer:

Company:

Misc:

Connection Diagram



a minimum = 1" $c = 1\frac{1}{2}"$
 b minimum = 3" $d = 6"$

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

Member has no side loads.

Connectors are: 16d Nails
 3½" ARDOX SPIRAL

Disclosure

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

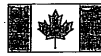
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DWG NO. TAM45471 -17
 STRUCTURAL
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BC CALC® Design Report

Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

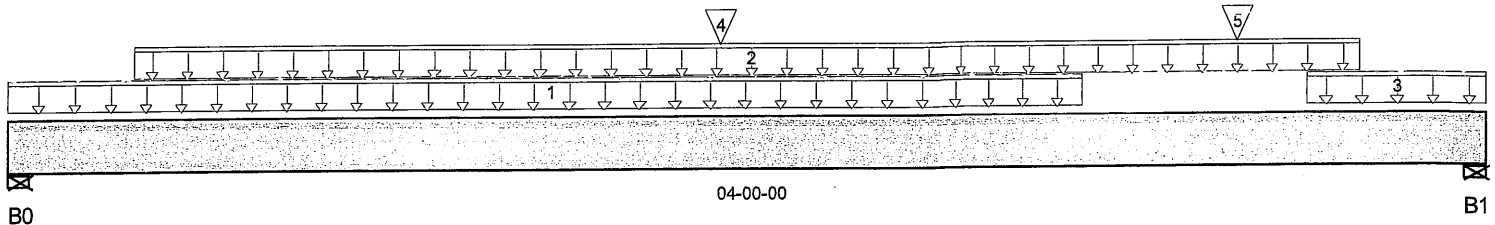
Description: Designs\Flush Beams\1st Floor\Flush Beams\B9(i899)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 04-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 4"	749 / 0	495 / 0		
B1, 4"	733 / 0	487 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	02-11-00	307	154			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-04-00	03-08-00		60			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	03-06-04	04-00-00	254	127			n/a
4	J3(i155)	Conc. Pt. (lbs)	L	01-11-00	01-11-00	148	74			n/a
5	-	Conc. Pt. (lbs)	L	03-04-00	03-04-00	307	154			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,270 ft-lbs	25,408 ft-lbs	5%	1	01-11-00
End Shear	1,057 lbs	11,571 lbs	9.1%	1	02-10-08
Total Load Defl.	L/999 (0.004")	n/a	n/a	4	01-11-12
Live Load Defl.	L/999 (0.002")	n/a	n/a	5	01-11-12
Max Defl.	0.004"	n/a	n/a	4	01-11-12
Span / Depth	4.4	n/a	n/a		00-00-00

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14/02/2018 10:28:36 AM kgervais

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	4" x 3-1/2"	1,741 lbs	29.1%	10.2%	Unspecified
B1 Wall/Plate	4" x 3-1/2"	1,707 lbs	28.5%	10%	Unspecified

Notes

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

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

Calculations assume Member is Fully Braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012



DWG NO. TAM 45422-17
STRUCTURAL
COMPONENT ONLY



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

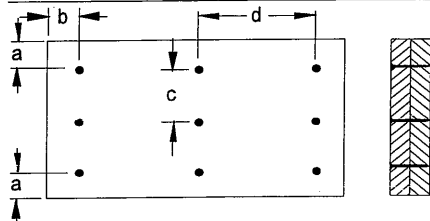
Description: Designs\Flush Beams\1st Floor\Flush Beams\B9(i89

Specifier:

Designer:

Company:

Misc:

Connection Diagram

a minimum = 2" c = 2-3/4" ^{1/2}
 b minimum = 3" d = 4"

Calculated Side Load = 493.9 lb/ft

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

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL**Disclosure**

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DWG NO. TAM 45472-17
 STRUCTURAL
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BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B11(i808)

Specifier:

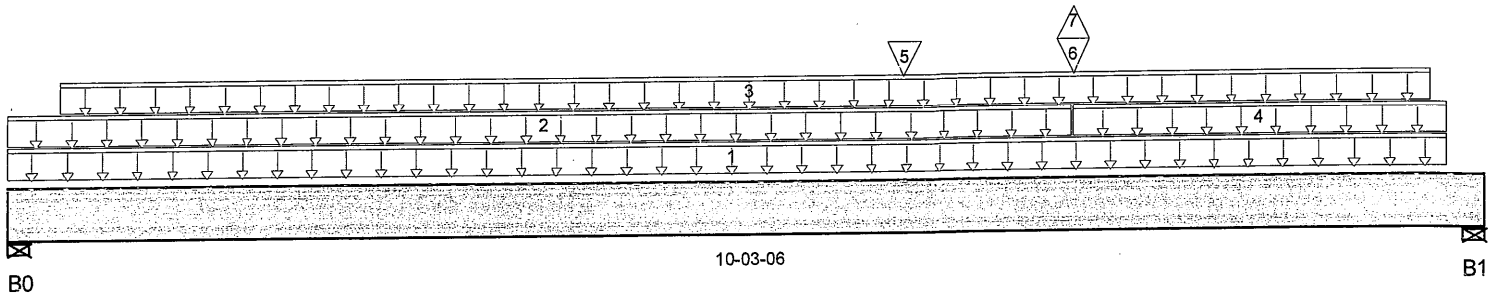
Designer:

Company:

Misc:

Town of Innisfil Certified Model

14/02/2018 10:28:45 AM kgervais



Total Horizontal Product Length = 10-03-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 4-3/8"	290 / 7	474 / 0		
B1, 5-1/2"	674 / 22	703 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-00-07	14	7			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	07-05-02	3				n/a
3	User Load	Unf. Lin. (lb/ft)	L	00-04-05	09-11-01		60			n/a
4	FC2 Floor Material	Unf. Lin. (lb/ft)	L	07-05-02	10-00-07	29	14			n/a
5	B14(i146)	Conc. Pt. (lbs)	L	06-02-10	06-02-10	66	48			n/a
6	B13(i845)	Conc. Pt. (lbs)	L	07-05-02	07-05-02	656	385			n/a
7	B13(i845)	Conc. Pt. (lbs)	L	07-05-02	07-05-02	-29				n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,074 ft-lbs	12,704 ft-lbs	32.1%	1	07-05-02
End Shear	1,723 lbs	5,785 lbs	29.8%	1	09-00-06
Total Load Defl.	L/638 (0.18")	0.479"	37.6%	6	05-04-07
Live Load Defl.	L/999 (0.083")	n/a	n/a	8	05-06-05
Max Defl.	0.18"	n/a	n/a	6	05-04-07
Span / Depth	12.1	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	4-3/8" x 1-3/4"	1,027 lbs	31.4%	11%	Unspecified
B1 Wall/Plate	5-1/2" x 1-3/4"	1,890 lbs	46%	16.1%	Unspecified

Notes



BC CALCC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B11 (18C

Specifier:

Designer:

Company:

Misc:

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

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

Calculations assume Member is Fully Braced.

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

BC CALCC® 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 9

Deflections less than 1/8" were ignored in the results.

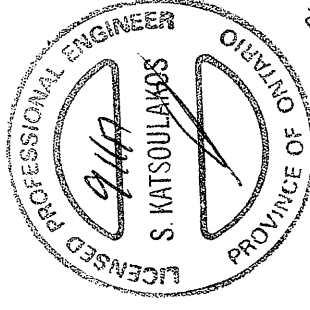
Disclosure

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.

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DWG NO. TAM 45473-17

STRUCTURAL

COMPONENT ONLY

pg 22



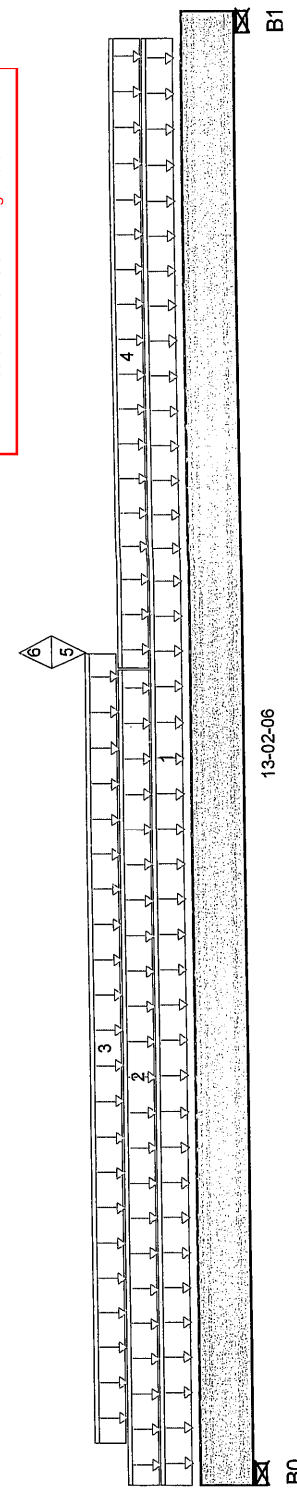
Dry | 1 span | No cantilevers | 0/12 slope (deg)

BC CALC® Design Report

Build 4340
Job Name:
Address:
City, Province, Postal Code:.,
Customer:
Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELAmmdl
Description: Designs\Flush Beams\1st Floor\Flush Beams\B12(i813)
Specifier:
Designer:
Company:
Msc:

Town of Innisfil Certified Model
14/02/2018 10:28:57 AM kgervais



Total Horizontal Product Length = 13-02-06

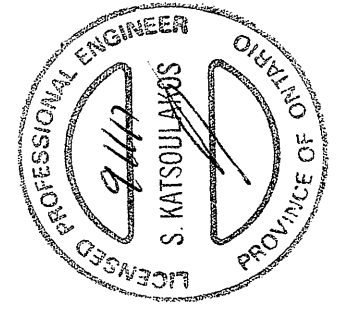
Reaction Summary (Down / Uplift) (lbs)				
Bearing	Live	Dead	Snow	Wind
B0, 4-3/8"	832 / 35	796 / 0		
B1, 5-1/2"	1,099 / 47	755 / 0		

Load Summary		Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
Tag Description										
1 FC2 Floor Material		Unf. Lin. (lb/ft)	L	00-00-00	12-11-10	25	12			n/a
2 FC2 Floor Material		Unf. Lin. (lb/ft)	L	00-00-00	07-03-06	6	3			n/a
3 User Load		Unf. Lin. (lb/ft)	L	00-04-06	07-05-02		60			n/a
4 FC2 Floor Material		Unf. Lin. (lb/ft)	L	07-03-06	12-11-10	29	14			n/a
5 B13(i845)		Conc. Pt. (lbs)	L	07-05-02	07-05-02	1406	737			n/a
6 B13(i845)		Conc. Pt. (lbs)	L	07-05-02	07-05-02	-82				n/a

Controls Summary		Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment		11,993 ft-lbs	25,408 ft-lbs	47.2%	1	07-05-02
End Shear		2,461 lbs	11,571 lbs	21.3%	1	11-11-06
Total Load Defl.		L/366 (0.41")	0.625"	65.5%	6	06-08-08
Live Load Defl.		L/635 (0.236")	0.417"	56.7%	8	06-08-08
Max Defl.		0.41"	n/a	n/a	6	06-08-08
Span / Depth		15.8	n/a	n/a		00-00-00

Bearing Supports		Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate		4-3/8" x 3-1/2"	2,242 lbs	34.3%	12%	Unspecified
B1 Wall/Plate		5-1/2" x 3-1/2"	2,592 lbs	31.5%	11%	Unspecified

Notes



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DWG NO. TAM 45474-17
STRUCTURAL
COMPONENT ONLY

BC CALC® Design Report

Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELAmmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams IB12(i81

Specifier:

Designer:

Company:

Misc:

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods.

Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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

Calculations assume Member is Fully Braced.

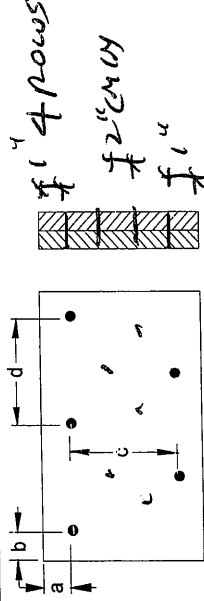
Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012**Connection Diagram**

a minimum = 1" c = 1 1/2"
b minimum = 3" d = 4"

Calculated Side Load = 228.7 lb/ft

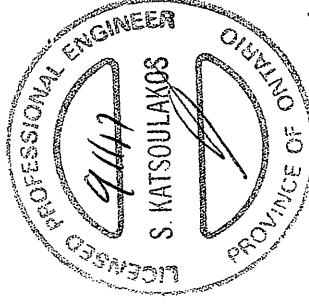
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: Nails

3 1/2" ARDOX SPIRAL

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DWG NO. TAM45474 -17

STRUCTURAL
COMPONENT ONLY



BC CALC® Design Report

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

Build 4340

File Name: S32-8.mmdl-ELA.mmdl

Job Name:

Description: Designs\Flush Beams\1st Floor\Flush Beams\B13(i845)

Address:

Specifier:

City, Province, Postal Code:

Designer:

Customer:

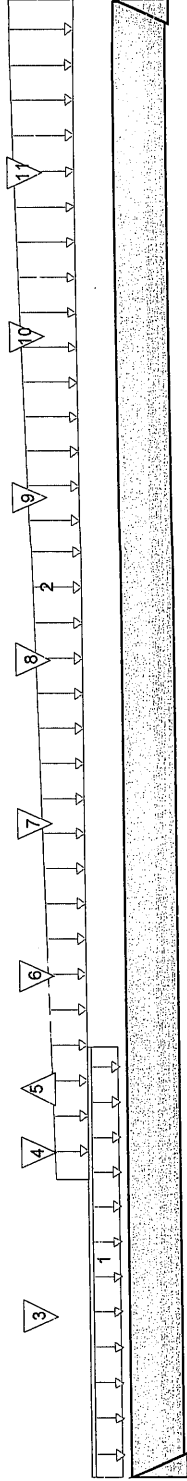
Company:

Code reports: CCMC 12472-R

Msc:

Town of Innisfil Certified Model

14/02/2018 10:29:03 AM kgervais



12-00-00

B1

Total Horizontal Product Length = 12-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0	1,412 / 82	740 / 0		
B1	650 / 29	382 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1 User Load	Unf. Lin. (lb/ft)	L	00-00-00	03-06-00	240	120			n/a
2 FC2 Floor Material	Trapezoidal (lb/ft)	L	02-04-15		3	1			n/a
				12-00-00	25	13			n/a
3 J3(i850)	Conc. Pt (lbs)	L	01-03-08	01-03-08	158	79			n/a
4 J3(i155)	Conc. Pt (lbs)	L	02-07-08	02-07-08	148	74			n/a
5 B14(i146)	Conc. Pt (lbs)	L	03-01-12	03-01-12	-111	-84			n/a
6 -	Conc. Pt (lbs)	L	04-00-12	04-00-12	327	224			n/a
7 J3(i177)	Conc. Pt (lbs)	L	05-03-08	05-03-08	157	79			n/a
8 J4(i818)	Conc. Pt (lbs)	L	06-07-08	06-07-08	63	32			n/a
9 J4(i830)	Conc. Pt (lbs)	L	07-11-08	07-11-08	73	37			n/a
10 J4(i852)	Conc. Pt (lbs)	L	09-03-08	09-03-08	73	37			n/a
11 J4(i838)	Conc. Pt (lbs)	L	10-07-08	10-07-08	77	38			n/a

Controls Summary

Pos.	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Moment	6,475 ft-lbs	25,408 ft-lbs	25.5%	1	04-01-09
End Shear	2,543 lbs	11,571 lbs	22%	1	00-11-08
Total Load Defl.	L/649 (0.218")	0.59"	37%	6	05-07-08
Live Load Defl.	L/1,008 (0.14")	0.393"	35.7%	8	05-07-08
Max Defl.	0.218"	n/a	n/a	6	05-07-08
Span / Depth	14.9	n/a	n/a		00-00-00

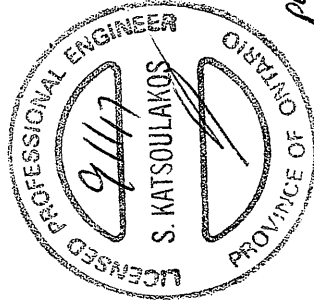
Demand/Resistance Support

Demand/Resistance Member

Bearing Supports

	Dim. (L x W)	Demand	Support	Member	Material
B0 Hanger	2" x 3-1/2"	3,044 lbs	n/a	35.6%	HGUS410
B1 Hanger	2" x 3-1/2"	1,453 lbs	n/a	17%	HGUS410

Notes



pg 1/2

DWG NO. TAM 45475-17

STRUCTURAL
COMPONENT ONLY

BC CALC® Design Report

Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B13\i84

Specifier:

Designer:

Company:

Misc:

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

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

Calculations assume Member is Fully Braced.

Hanger Manufacturer: Unassigned

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA O86.

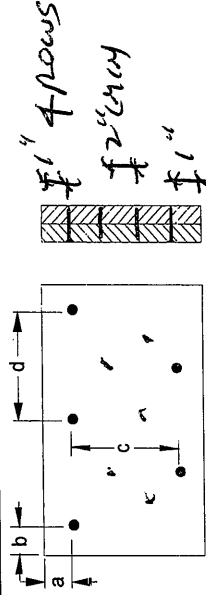
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO DBC 2012

Connection Diagram



a minimum = 1"

c = 2-1/2"

b minimum = 3"

d = 6"

Calculated Side Load = 164.6 lb/ft

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

Connectors are:

Nails

3 1/2" ARDOX SPIRAL

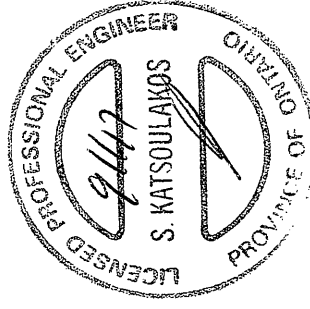
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Disclosure

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DWG NO. TAM 45425-17

STRUCTURAL
COMPONENT ONLY

p624



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

BC CALCO® Design Report

Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-ELA.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B14(i146)

Specifier:

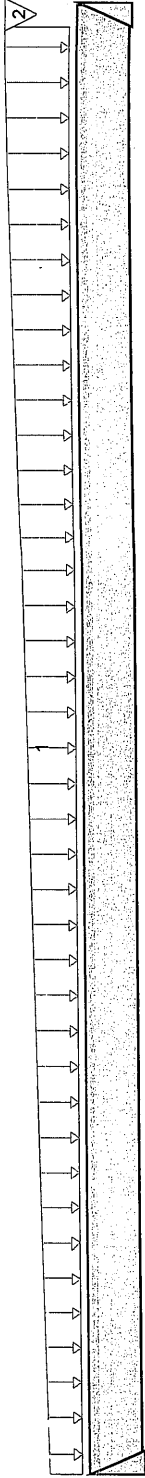
Designer:

Company:

Msc:

Town of Innisfil Certified Model

14/02/2018 10:29:12 AM kgervais



09-00-08

B1

Total Horizontal Product Length = 09-00-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0	47 / 0	45 / 0		
B1	82 / 0	63 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1 FC2 Floor Material	Trapezoidal (lb/ft)	L	00-00-00		3	1			n/a
				08-10-13	25	13			n/a
2 FC2 Floor Material	Conc. Pt. (lbs)	L	08-11-10	08-11-10	4	2			n/a

Controls Summary

Pos.	Moment	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
1	359 ft-lbs	12,704 ft-lbs	2.8%	1	04-11-09	
End Shear	187 lbs	5,785 lbs	3.2%	1	08-01-00	
Total Load Defl.	L/999 (0.014")	n/a	n/a	4	04-07-09	
Live Load Defl.	L/999 (0.008")	n/a	n/a	5	04-07-09	
Max Defl.	0.014"	n/a	n/a	4	04-07-09	
Span / Depth	11.2	n/a	n/a		00-00-00	

Disclosure

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Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Hanger	2" x 1-3/4"	127 lbs	n/a	3%	LS 90
B1 Hanger	2" x 1-3/4"	202 lbs	n/a	4.7%	LS 90

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculation assumes member is partially braced. See engineering report for the unbraced length.

Hanger Manufacturer: Unassigned

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

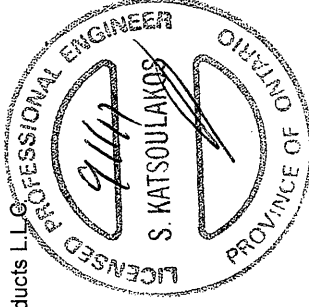
BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012



DWG NO. TAM45476-17
STRUCTURAL
COMPONENT ONLY



BC CALC® Design Report

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

Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-SUNKEN.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B15(i924

Specifier:

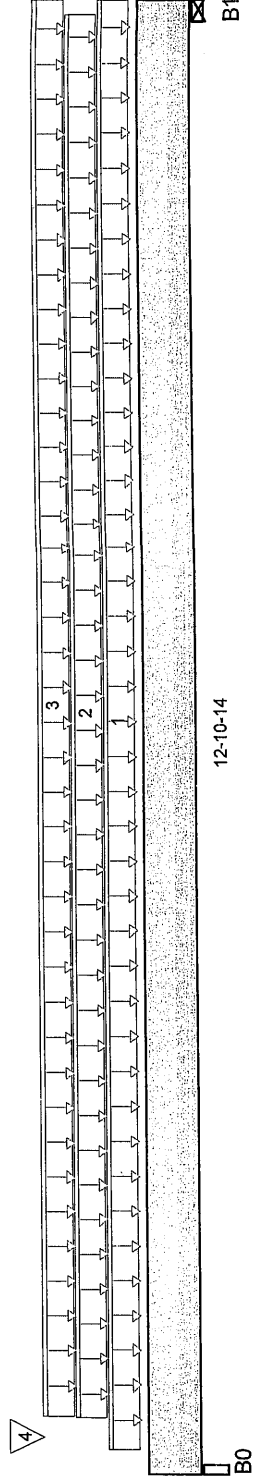
Designer:

Company:

Msc:

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14/02/2018 10:29:16 AM kgervais



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B0, 5"	300 / 0	580 / 0
B1, 2-3/8"	145 / 0	476 / 0

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1 FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-02-08	12-10-14	19	10			n/a
2 User Load	Unf. Lin. (lb/ft)	L	00-05-12	12-09-06		60			n/a
3 FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-05-14	12-10-14	4	2			n/a
4 7(i134)	Conc. Pt. (lbs)	L	00-03-12	00-03-12	155	111			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,058 ft-lbs	8,258 ft-lbs	24.9%	0	06-06-12
End Shear	635 lbs	3,761 lbs	16.9%	0	01-02-08
Total Load Defl.	L/702 (0.212")	0.621"	34.2%	4	06-06-12
Live Load Defl.	L/999 (0.049")	n/a	n/a	5	06-06-12
Max Defl.	0.212"	n/a	n/a	4	06-06-12
Span / Depth	15.7	n/a	n/a		00-00-00

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.

Bearing	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Beam	5" x 1-3/4"	812 lbs	26.7%	11.7%	Unspecified
B1 Wall/Plate	2-3/8" x 1-3/4"	667 lbs	46.2%	20.2%	Unspecified

Notes

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

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

Calculations assume Member is Fully Braced.

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

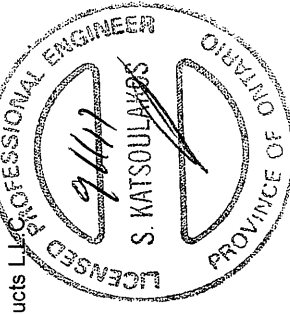
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012



DWG NO. : FAM 45477-17

STRUCTURAL
COMPONENT ONLY

BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: S32-8.mmdl-SUNKEN.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B16L(i92

Specifier:

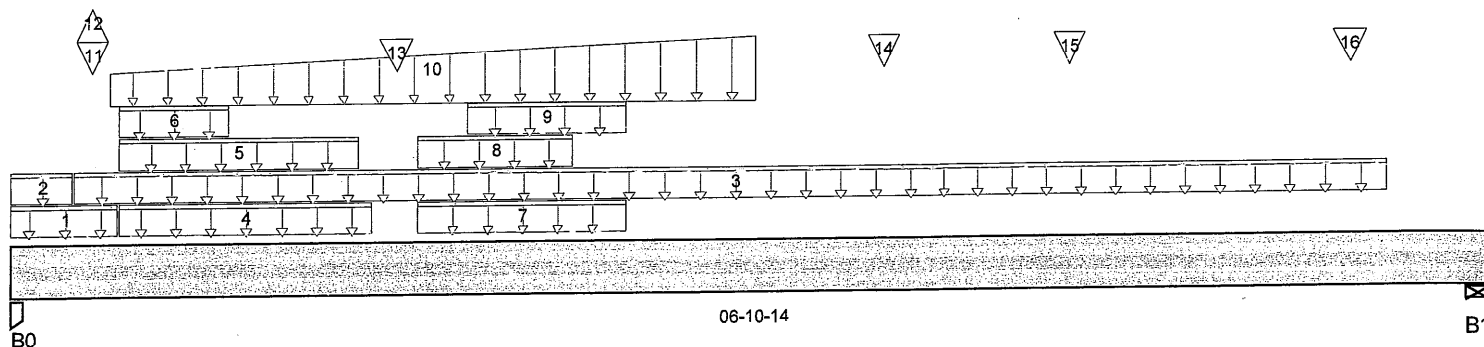
Designer:

Company:

Misc:

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14/02/2018 10:29:18 AM kgervais



Total Horizontal Product Length = 06-10-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,994 / 45	1,440 / 0		
B1, 4-3/8"	1,733 / 1	1,143 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1	7(i134)	Unf. Lin. (lb/ft)	L	-00-00-00	00-06-00	811	637			n/a
2	7(i134)	Unf. Lin. (lb/ft)	L	-00-00-00	00-03-08	249	124			n/a
3	User Load	Unf. Lin. (lb/ft)	L	00-03-08	06-05-06		60			n/a
4	7(i134)	Unf. Lin. (lb/ft)	L	00-06-00	01-08-04		40			n/a
5	7(i134)	Unf. Lin. (lb/ft)	L	00-06-00	01-07-08	109	54			n/a
6	7(i134)	Unf. Lin. (lb/ft)	L	00-06-00	01-00-04	405	278			n/a
7	7(i134)	Unf. Lin. (lb/ft)	L	01-10-12	02-10-08		40			n/a
8	7(i134)	Unf. Lin. (lb/ft)	L	01-10-12	02-07-08	93	47			n/a
9	7(i134)	Unf. Lin. (lb/ft)	L	02-01-08	02-10-08	501	264			n/a
10	Smoothed Load	Trapezoidal (lb/ft)	L	00-05-08		222	112			n/a
					03-05-08	269	134			n/a
11	-	Conc. Pt. (lbs)	L	00-04-08	00-04-08	45				n/a
12	-	Conc. Pt. (lbs)	L	00-04-08	00-04-08	-46				n/a
13	7(i134)	Conc. Pt. (lbs)	L	01-09-08	01-09-08	63	48			n/a
14	J1(i745)	Conc. Pt. (lbs)	L	04-00-12	04-00-12	247	124			n/a
15	J1(i760)	Conc. Pt. (lbs)	L	04-11-08	04-11-08	235	117			n/a
16	-	Conc. Pt. (lbs)	L	06-03-05	06-03-05	970	532			n/a



DWG NO. TAM 45478-17
STRUCTURAL
COMPONENT ONLY

BC CALC® Design Report



Build 4340

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: S32-8.mmdl-SUNKEN.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B16L(j

Specifier:

Designer:

Company:

Misc:

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,232 ft-lbs	12,704 ft-lbs	41.2%	1	02-11-08
End Shear	3,901 lbs	5,785 lbs	67.4%	1	01-01-00
Total Load Defl.	L/999 (0.108")	n/a	n/a	6	03-03-06
Live Load Defl.	L/999 (0.063")	n/a	n/a	8	03-03-06
Max Defl.	0.108"	n/a	n/a	6	03-03-06
Span / Depth	8.1	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Post	3-1/2" x 1-3/4"	4,792 lbs	96.4%	64.1%	Unspecified
B1 Wall/Plate	4-3/8" x 1-3/4"	4,029 lbs	98.5%	43.1%	Unspecified

Notes

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

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

Calculations assume Member is Fully Braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Deflections less than 1/8" were ignored in the results.

CONFORMS TO OBC 2012

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.

Town of Innisfil Certified Model

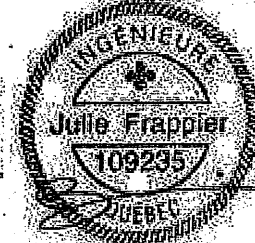
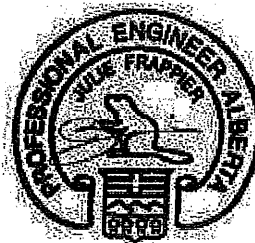
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DWG NO. YAM 43478-17
STRUCTURAL
COMPONENT ONLY

Maximum Floor Spans

Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/480 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'-8"	15'-3"	14'-5"	N/A	16'-8"	15'-3"	14'-5"	N/A
	NI-40x	17'-11"	16'-11"	16'-1"	N/A	18'-5"	17'-1"	16'-1"	N/A
	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	N/A
	NI-70	19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	N/A
	NI-80	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"	17'-8"	N/A
11-7/8"	NI-20	19'-6"	18'-1"	17'-3"	N/A	19'-11"	18'-3"	17'-3"	N/A
	NI-40x	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A
	NI-60	21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-6"	N/A
	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
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

1. Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.

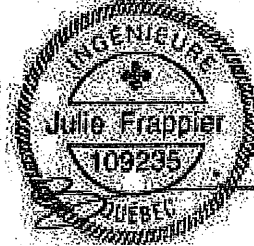
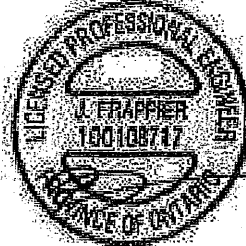
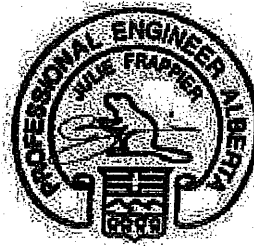
2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall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

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

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

5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.

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



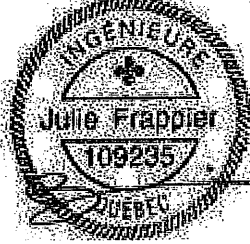
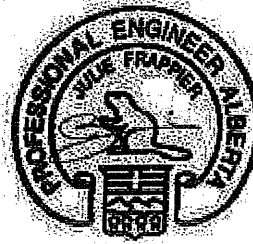
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/480 Deflection Limit
3/4" 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'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"
	NI-70	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
11-7/8"	NI-20	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
14"	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	17'-11"	22'-1"	20'-6"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"
	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
16"	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21'-9"	20'-7"
	NI-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21'-8"	20'-6"
	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

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"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	NI-70	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17'-10"	16'-7"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
11-7/8"	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"
	NI-60	22'-1"	20'-7"	19'-7"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
	NI-70	23'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"	21'-2"	19'-9"
	NI-80	23'-7"	21'-11"	20'-11"	19'-9"	24'-1"	22'-6"	21'-5"	20'-0"
14"	NI-90x	24'-3"	22'-6"	21'-6"	20'-4"	24'-8"	23'-0"	22'-0"	20'-9"
	NI-40x	24'-5"	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-60	24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
	NI-70	26'-1"	24'-3"	23'-2"	21'-10"	26'-8"	24'-11"	23'-9"	22'-4"
	NI-80	26'-6"	24'-7"	23'-5"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
16"	NI-90x	27'-3"	25'-4"	24'-1"	22'-9"	27'-9"	25'-11"	24'-8"	23'-4"
	NI-60	27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	24'-9"	23'-1"
	NI-70	28'-8"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"	26'-1"	24'-8"
	NI-80	29'-1"	27'-0"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90x	29'-11"	27'-10"	26'-6"	25'-0"	30'-6"	28'-5"	27'-2"	25'-8"

- 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/480 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 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling 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, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



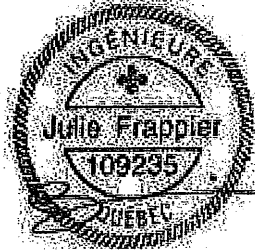
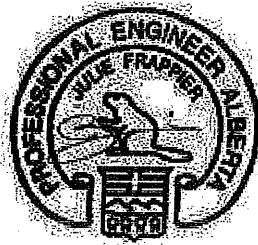
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 30 psf
Simple Spans, L/480 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'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
	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	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	17'-9"	16'-1"	15'-1"	N/A	17'-9"	16'-1"	15'-1"	N/A
	NI-60	18'-1"	16'-4"	15'-4"	N/A	18'-1"	16'-4"	15'-4"	N/A
	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"	16'-9"	N/A
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"	17'-1"	N/A
11-7/8"	NI-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	16'-0"	N/A
	NI-40x	21'-0"	19'-3"	17'-9"	N/A	21'-3"	19'-3"	17'-9"	N/A
	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"	18'-5"	N/A
	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-4"	20'-0"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-5"	N/A
14"	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-5"	19'-6"	N/A	24'-1"	21'-5"	19'-6"	N/A
	NI-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"	21'-0"	N/A
	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-9"	N/A
	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"	24'-10"	23'-4"	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 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- 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, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



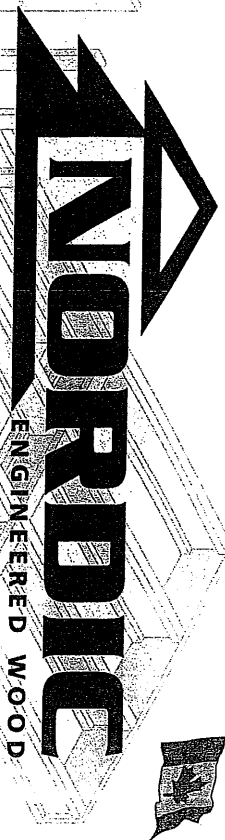
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 30 psf
Simple Spans, L/480 Deflection Limit
3/4" OSB G&N Sheathing

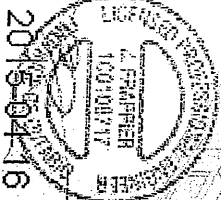
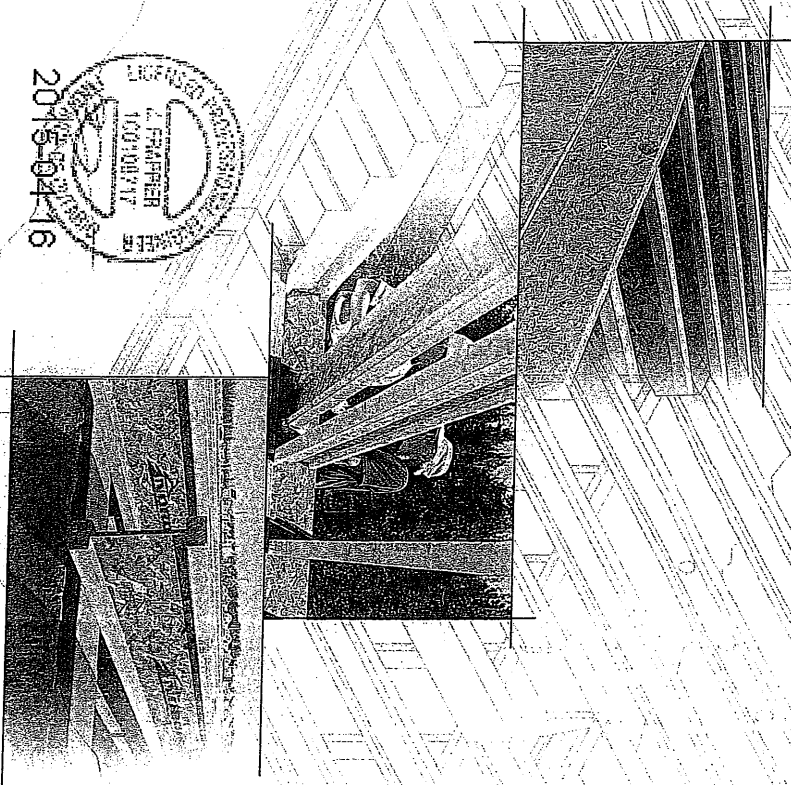
Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"
	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"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

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	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1"	13'-11"
	NI-60	18'-1"	16'-5"	15'-5"	14'-3"	18'-1"	16'-5"	15'-5"	14'-3"
	NI-70	19'-10"	17'-11"	16'-9"	15'-6"	19'-10"	17'-11"	16'-9"	15'-6"
	NI-80	20'-2"	18'-3"	17'-1"	15'-10"	20'-2"	18'-3"	17'-1"	15'-10"
11-7/8"	NI-20	18'-10"	17'-1"	16'-0"	14'-10"	18'-10"	17'-1"	16'-0"	14'-10"
	NI-40x	21'-3"	19'-3"	17'-9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10"
	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
	NI-80	23'-7"	21'-10"	20'-5"	18'-11"	24'-1"	21'-10"	20'-5"	18'-11"
	NI-90x	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7"	21'-3"	19'-7"
14"	NI-40x	24'-2"	21'-5"	19'-6"	17'-5"	24'-2"	21'-5"	19'-6"	17'-5"
	NI-60	24'-9"	22'-5"	21'-0"	19'-6"	24'-9"	22'-5"	21'-0"	19'-6"
	NI-70	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22'-9"	21'-0"
	NI-80	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"
	NI-90x	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"
16"	NI-60	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
	NI-80	29'-1"	27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10"
	NI-90x	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10"

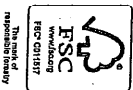
- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling 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, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



Distributed by:



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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:

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 continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this 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 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building 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.



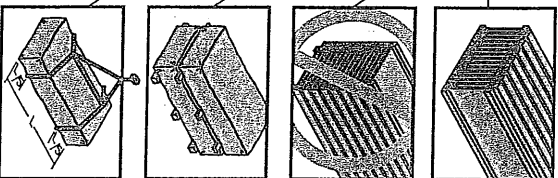
Do not work on I-joists until fully fastened and braced, or serious injuries can result.



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

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 flatwise.
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.



MAXIMUM FLOOR SPANS

- 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 a live load deflection limit of L/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 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.
- Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate 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 uniform loads, an engineering analysis may be required based on the use of the design properties.
- Tables are based on Limit States Design per CAN/CSA O86-09 Standard, and NBC 2010.
- SI units conversion: 1 inch = 25.4 mm
1 foot = 0.305 m

WEB STIFFENERS

RECOMMENDATIONS:

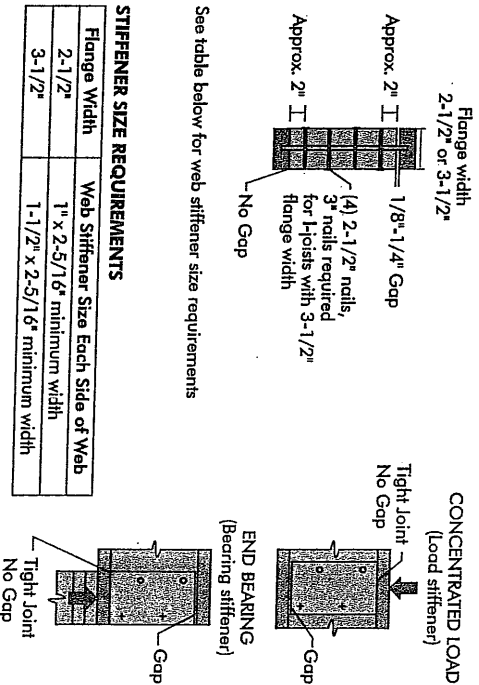
- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found in the Construction Guide (C101). The gap between the stiffener and the flange is at the top.
 - A bearing stiffener is required when the I-joist is supported 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

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

Joist Depth	Joist Series	Simple spans				Multiple spans			
		12'	16'	19.2'	24'	12'	16'	19.2'	24'
3-1/2"	NI-20	5.1	4.2	3.9	3.5	4.3	3.4	3.1	2.7
	NI-40	6.5	5.2	4.9	4.5	5.5	4.5	4.1	3.6
	NI-60	7.1	5.8	5.4	5.0	6.1	5.0	4.6	4.1
	NI-80	7.9	6.3	5.8	5.4	6.7	5.5	5.1	4.6
4-1/2"	NI-20	6.1	5.0	4.6	4.2	5.1	4.1	3.7	3.3
	NI-40	7.5	6.0	5.6	5.2	6.3	5.1	4.7	4.2
	NI-60	8.1	6.5	6.0	5.6	6.9	5.6	5.2	4.7
	NI-80	8.9	7.1	6.6	6.2	7.5	6.2	5.7	5.2
5-1/2"	NI-20	7.1	5.8	5.4	5.0	6.1	5.0	4.6	4.1
	NI-40	8.5	6.8	6.4	6.0	7.1	5.8	5.4	4.9
	NI-60	9.1	7.3	6.8	6.4	7.7	6.4	6.0	5.5
	NI-80	9.9	8.0	7.5	7.1	8.3	6.9	6.5	6.0
6-1/2"	NI-20	8.1	6.6	6.2	5.8	6.9	5.6	5.2	4.7
	NI-40	9.5	7.7	7.2	6.8	7.5	6.2	5.8	5.3
	NI-60	10.1	8.3	7.8	7.4	8.1	6.7	6.3	5.8
	NI-80	10.9	8.9	8.4	7.9	8.7	7.3	6.9	6.4
7-1/2"	NI-20	9.1	7.5	7.1	6.7	7.9	6.5	6.1	5.6
	NI-40	10.5	8.7	8.2	7.8	9.1	7.6	7.2	6.7
	NI-60	11.1	9.3	8.8	8.4	9.7	8.2	7.8	7.3
	NI-80	11.9	9.9	9.4	8.9	10.3	8.8	8.4	7.9
8-1/2"	NI-20	10.1	8.5	8.1	7.7	9.1	7.6	7.2	6.7
	NI-40	11.5	9.7	9.2	8.8	10.5	8.8	8.4	7.9
	NI-60	12.1	10.3	9.8	9.4	11.1	9.4	9.0	8.5
	NI-80	12.9	10.9	10.4	9.9	11.7	10.0	9.6	9.1
9-1/2"	NI-20	11.1	9.5	9.1	8.7	10.1	8.5	8.1	7.6
	NI-40	12.5	10.7	10.2	9.8	11.5	9.7	9.3	8.8
	NI-60	13.1	11.3	10.8	10.4	12.1	10.3	9.9	9.4
	NI-80	13.9	11.9	11.4	10.9	12.7	10.9	10.5	10.0
10-1/2"	NI-20	12.1	10.5	10.1	9.7	11.1	9.5	9.1	8.6
	NI-40	13.5	11.7	11.2	10.8	12.5	10.7	10.3	9.8
	NI-60	14.1	12.3	11.8	11.4	13.1	11.3	10.9	10.4
	NI-80	14.9	12.9	12.4	11.9	13.7	11.9	11.5	11.0

CMC EVALUATION REPORT 13032-R

FIGURE 2
WEB STIFFENER INSTALLATION DETAILS



NORDIC I-JOIST SERIES

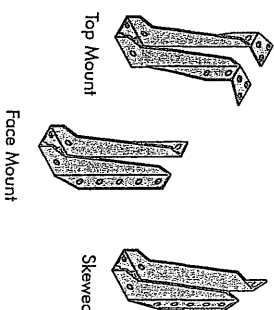
33 pieces per unit	33 pieces per unit	33 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit
NI-20	NI-40x	NI-60	NI-70	NI-80	NI-90	NI-90x	NI-90x
OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"
1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"
11-7/8"	11-7/8"	11-7/8"	11-7/8"	11-7/8"	11-7/8"	11-7/8"	11-7/8"
14"	14"	14"	14"	14"	14"	14"	14"
15"	15"	15"	15"	15"	15"	15"	15"
16"	16"	16"	16"	16"	16"	16"	16"
17"	17"	17"	17"	17"	17"	17"	17"
18"	18"	18"	18"	18"	18"	18"	18"
19"	19"	19"	19"	19"	19"	19"	19"
20"	20"	20"	20"	20"	20"	20"	20"
21"	21"	21"	21"	21"	21"	21"	21"
22"	22"	22"	22"	22"	22"	22"	22"
23"	23"	23"	23"	23"	23"	23"	23"
24"	24"	24"	24"	24"	24"	24"	24"
25"	25"	25"	25"	25"	25"	25"	25"
26"	26"	26"	26"	26"	26"	26"	26"
27"	27"	27"	27"	27"	27"	27"	27"
28"	28"	28"	28"	28"	28"	28"	28"
29"	29"	29"	29"	29"	29"	29"	29"
30"	30"	30"	30"	30"	30"	30"	30"
31"	31"	31"	31"	31"	31"	31"	31"
32"	32"	32"	32"	32"	32"	32"	32"
33"	33"	33"	33"	33"	33"	33"	33"
34"	34"	34"	34"	34"	34"	34"	34"
35"	35"	35"	35"	35"	35"	35"	35"
36"	36"	36"	36"	36"	36"	36"	36"
37"	37"	37"	37"	37"	37"	37"	37"
38"	38"	38"	38"	38"	38"	38"	38"
39"	39"	39"	39"	39"	39"	39"	39"
40"	40"	40"	40"	40"	40"	40"	40"
41"	41"	41"	41"	41"	41"	41"	41"
42"	42"	42"	42"	42"	42"	42"	42"
43"	43"	43"	43"	43"	43"	43"	43"
44"	44"	44"	44"	44"	44"	44"	44"
45"	45"	45"	45"	45"	45"	45"	45"
46"	46"	46"	46"	46"	46"	46"	46"
47"	47"	47"	47"	47"	47"	47"	47"
48"	48"	48"	48"	48"	48"	48"	48"
49"	49"	49"	49"	49"	49"	49"	49"
50"	50"	50"	50"	50"	50"	50"	50"
51"	51"	51"	51"	51"	51"	51"	51"
52"	52"	52"	52"	52"	52"	52"	52"
53"	53"	53"	53"	53"	53"	53"	53"
54"	54"	54"	54"	54"	54"	54"	54"
55"	55"	55"	55"	55"	55"	55"	55"
56"	56"	56"	56"	56"	56"	56"	56"
57"	57"	57"	57"	57"	57"	57"	57"
58"	58"	58"	58"	58"	58"	58"	58"
59"	59"	59"	59"	59"	59"	59"	59"
60"	60"	60"	60"	60"	60"	60"	60"
61"	61"	61"	61"	61"	61"	61"	61"
62"	62"	62"	62"	62"	62"	62"	62"
63"	63"	63"	63"	63"	63"	63"	63"
64"	64"	64"	64"	64"	64"	64"	64"
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66"	66"	66"	66"	66"	66"	66"	66"
67"	67"	67"	67"	67"	67"	67"	67"
68"	68"	68"	68"	68"	68"	68"	68"
69"	69"	69"	69"	69"	69"	69"	69"
70"	70"	70"	70"	70"	70"	70"	70"
71"	71"	71"	71"	71"	71"	71"	71"
72"	72"	72"	72"	72"	72"	72"	72"
73"	73"	73"	73"	73"	73"	73"	73"
74"	74"	74"	74"	74"	74"	74"	74"
75"	75"	75"	75"	75"	75"	75"	75"
76"	76"	76"	76"	76"	76"	76"	76"
77"	77"	77"	77"	77"	77"	77"	77"
78"	78"	78"	78"	78"	78"	78"	78"
79"	79"	79"	79"	79"	79"	79"	79"
80"	80"	80"	80"	80"	80"	80"	80"
81"	81"	81"	81"	81"	81"	81"	81"
82"	82"	82"	82"	82"	82"	82"	82"
83"	83"	83"	83"	83"	83"	83"	83"
84"	84"	84"	84"	84"	84"	84"	84"
85"	85"	85"	85"	85"	85"	85"	85"
86"	86"	86"	86"	86"	86"	86"	86"
87"	87"	87"	87"	87"	87"	87"	87"
88"	88"	88"	88"	88"	88"	88"	88"
89"	89"	89"	89"	89"	89"	89"	89"
90"	90"	90"	90"	90"	90"	90"	90"
91"	91"	91"	91"	91"	91"	91"	91"
92"	92"	92"	92"	92"	92"	92"	92"
93"	93"	93"	93"	93"	93"	93"	93"
94"	94"	94"	94"	94"	94"	94"	94"
95"	95"	95"	95"	95"	95"	95"	95"
96"	96"	96"	96"	96"	96"	96"	96"
97"	97"	97"	97"	97"	97"	97"	97"
98"	98"	98"	98"	98"	98"	98"	98"
99"	99"	99"	99"	99"	99"	99"	99"
100"	100"	100"	100"	100"	100"	100"	100"

Chantiers Chibougamau Ltd. harvests its own trees, which enables Nordic products to adhere to strict quality control procedures throughout the manufacturing process. Every phase of the operation, from forest to the finished product, reflects our commitment to quality.

Nordic Engineered Wood I-joists use only finger-jointed, wet-dry spruce lumber in their flanges, ensuring consistent quality, superior strength, and longer span carrying capacity.

I-JOIST HANGERS

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



2015-04-16

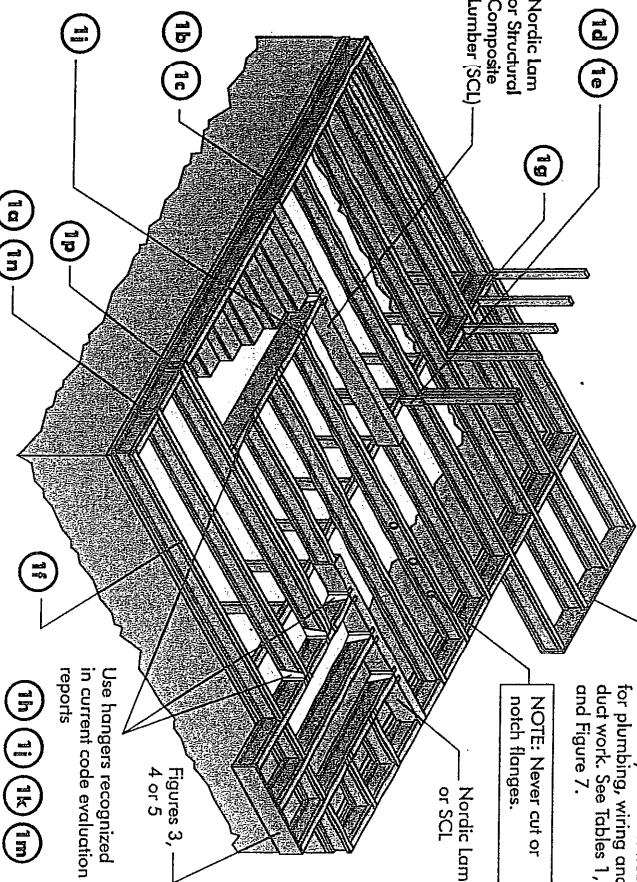
INSTALLING NORDIC I-JOISTS

1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, contact your 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 all 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 (cripple 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.

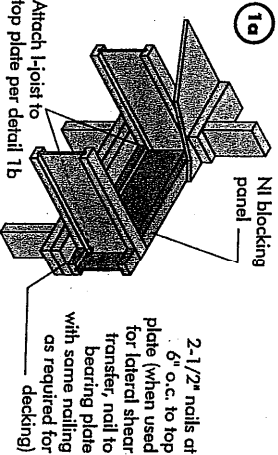
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FIGURE 1
TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

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

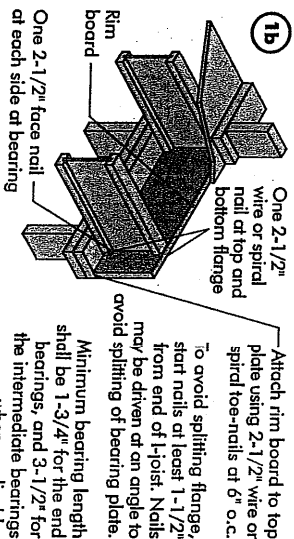


All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.



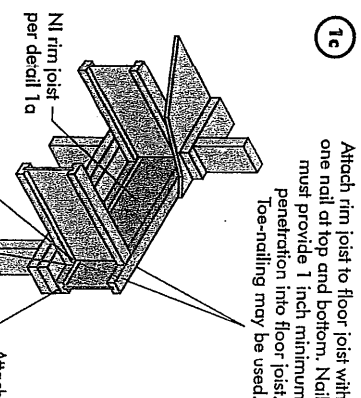
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
NI Joists	3,300

*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.

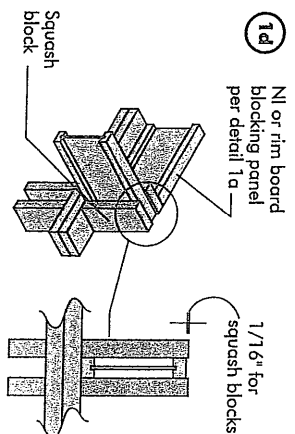


Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
1-1/8" Rim Board Plus	8,090

*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.

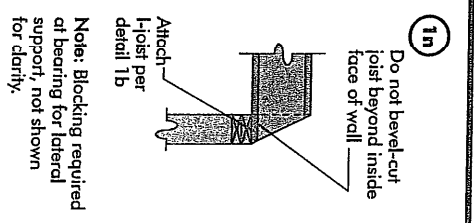
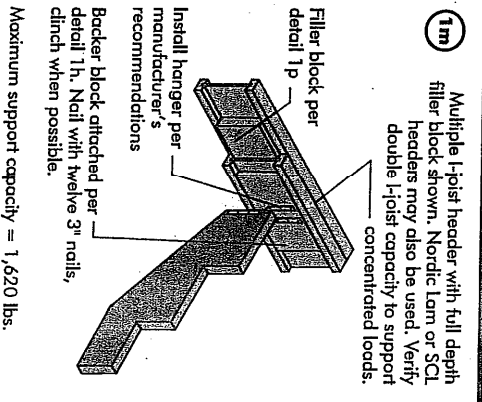
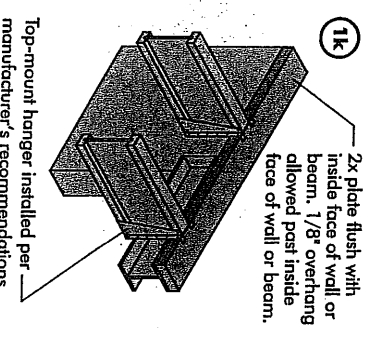
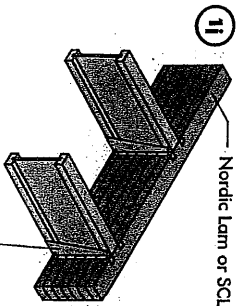
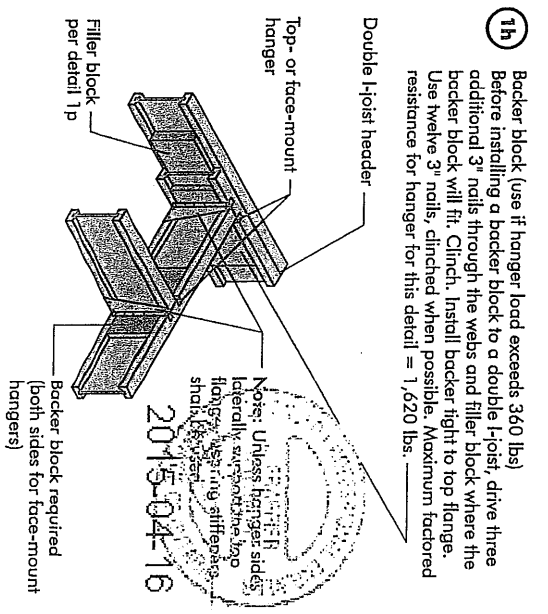
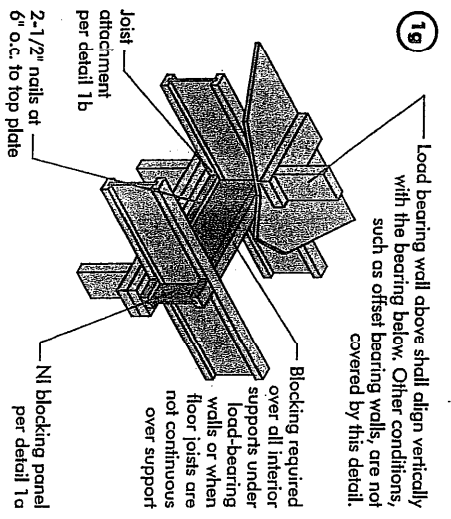
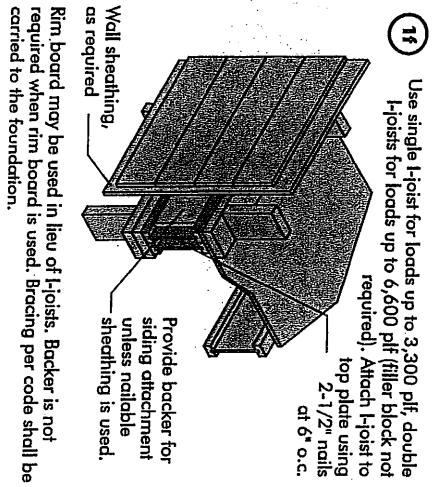
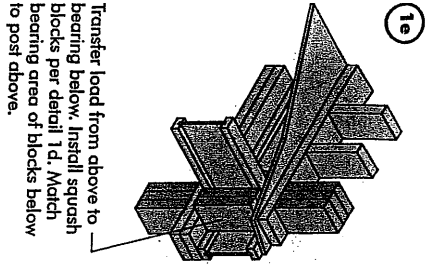


Attach rim joist to floor joist with one nail at top and bottom. Nail must provide 1 inch minimum penetration into floor joist. Toe-nailing may be used.



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

Provide lateral bracing per detail 1a, 1b, or 1c



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-C325 or CAN/CSA-Q437 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".

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

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

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

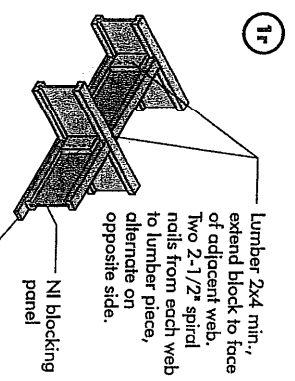
Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

Notes:

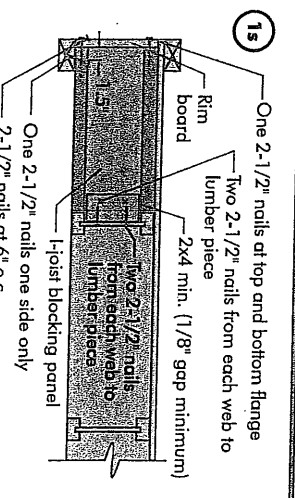
1. Support back of I-joist web during nailing to prevent damage to web/flange connection.
2. Leave a 1/8" to 1/4"-inch gap between top of filler block and bottom of top I-joist flange.
3. Filler block is required between joists for full length of span.
4. Nail joists together with two rows of 3" nails 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 lbf/ft. Verify double I-joist capacity.

FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

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



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



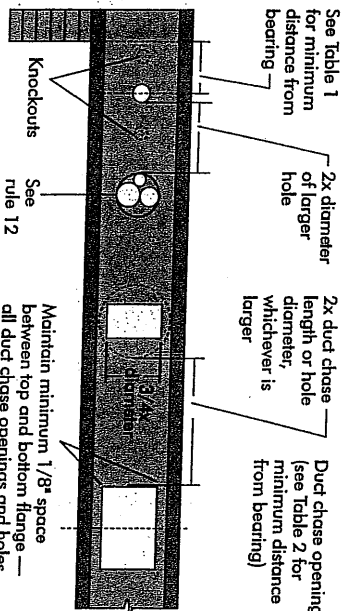
Notes:
 - In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of the blocking.
 - All nails are common spiral in this detail.

WEB HOLES

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

1. The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
2. I-joint top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. Whenever possible, field-cut holes should be centred on the middle of the web.
4. The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joint web shall equal the clear distance between the flanges of the I-joint minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joint flange.
5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
7. A knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
8. Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.
9. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
10. All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
11. Limit three maximum size holes per span, of which one may be a duct chase opening.
12. A group of round holes of approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

FIGURE 7
FIELD-CUT HOLE LOCATOR



A knockout is **NOT** considered a hole, may be utilized wherever it occurs and may be ignored for purposes of calculating minimum distances between holes.

TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS
Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

Joist Depth	Joist Series	Minimum distance from inside face of any support to centre of hole (ft/in)												Span adjustment Factor		
		2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4		11	12
12	N120	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N140	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N180	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
14	N140	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N180	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
16	N160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N180	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N220	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
18	N180	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N220	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N240	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
20	N200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N220	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N240	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N260	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
22	N220	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N240	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N260	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
	N280	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9

1. Above table may be used for I-joint spacing of 24 inches on centre or less.
2. Joist location distance is measured from inside face of supports to centre of hole.
3. Distances in this chart are based on uniformly loaded joists.

OPTIONAL:

The above table is based on the I-joists used at their maximum span. If the I-joists are placed at less than their full maximum span (see Maximum Span, Section 1.1.1), the minimum distance from the centreline of the hole to the face of any support (D) as given above may be reduced as follows:

$$\text{Reduced } D = \frac{\text{Actual } D}{\text{Span Adjustment Factor}}$$

Where: D_{reduced} = Distance from the inside face of any support to centre of hole, reduced for less-than-maximum span applications (ft).
 D_{actual} = The actual measured span distance between the inside faces of supports (ft).
 SAF = Span Adjustment Factor given in this table.
 The minimum distance from the inside face of any support to centre of hole from this table.

If D_{reduced} is greater than 1, use 1 in the above calculation for D_{reduced} .

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TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS — Simple Span Only

Joist Depth	Joist Series	Minimum distance from inside face of any support to centre of opening (ft/in)											
		8	10	12	14	16	18	20	22	24	26	28	30
12	N120	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
	N140	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
	N160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
	N180	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
14	N140	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
	N160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
	N180	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
	N200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
16	N160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
	N180	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
	N200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0
	N220	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0

1. Above table may be used for I-joint spacing of 24 inches on centre or less.
2. Duct chase opening location distance is measured from inside face of supports to centre of opening.
3. The above table is based on simple-span joists only. For other applications, contact your local distributor.
4. Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480. For other applications, contact your local distributor.



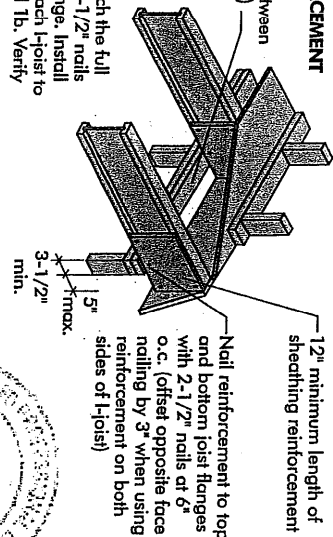
Never drill, cut or notch the flange, or over-cut the web.
 Holes in webs should be cut with a sharp saw.

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

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

5a SHEATHING REINFORCEMENT

Provide full depth blocking between joists over support (not shown)



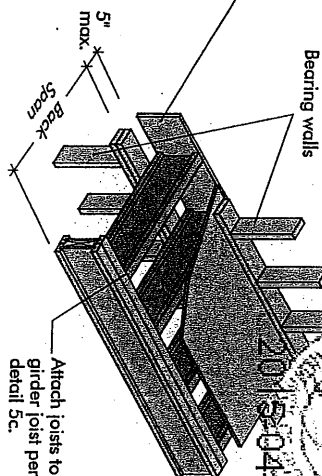
Note: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail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

Nail reinforcement to top and bottom joist flanges with 2-1/2" nails at 6" o.c. (offset opposite face nailing by 3" when using reinforcement on both sides of I-joist)

5b SET-BACK DETAIL

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

Notes:
- Provide full depth blocking between joists over support (not shown for clarity)
- Attach I-joist to plate at all supports per detail 1b.
- 3-1/2" minimum I-joist bearing required.



Attach joists to girder joist per detail 5c.

5c SET-BACK CONNECTION

Vertical solid sawn blocks (2x6 S-P-F No. 2 or better) nailed through joist web and web of girder using 2-1/2" nails.

Nail joist end using 3" nails, toe-nail at top and bottom flanges.

Notes:
- Verify girder joist capacity if the back span exceeds the joist spacing.
- Attach double I-joist per detail 1p, if required.

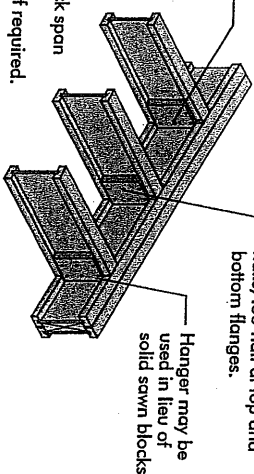
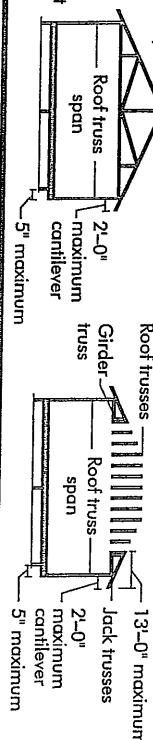


FIGURE 5 (continued)

See table below for NI reinforcement requirements at 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 DEPTH (in.)	ROOF TRUSS SPAN (ft)	ROOF LOADING (UNFACTORED)											
		LL = 30 psf, DL = 15 psf				LL = 40 psf, DL = 15 psf				LL = 50 psf, DL = 15 psf			
		JOIST SPACING (in.)				JOIST SPACING (in.)				JOIST SPACING (in.)			
		12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
9-1/2"	26	-	X	X	X	-	X	X	X	-	X	X	X
	30	-	X	X	X	-	X	X	X	-	X	X	X
	32	-	X	X	X	-	X	X	X	-	X	X	X
	34	-	X	X	X	-	X	X	X	-	X	X	X
	36	-	X	X	X	-	X	X	X	-	X	X	X
	38	-	X	X	X	-	X	X	X	-	X	X	X
11-7/8"	26	-	X	X	X	-	X	X	X	-	X	X	X
	30	-	X	X	X	-	X	X	X	-	X	X	X
	32	-	X	X	X	-	X	X	X	-	X	X	X
	34	-	X	X	X	-	X	X	X	-	X	X	X
	36	-	X	X	X	-	X	X	X	-	X	X	X
	38	-	X	X	X	-	X	X	X	-	X	X	X
14"	26	-	X	X	X	-	X	X	X	-	X	X	X
	30	-	X	X	X	-	X	X	X	-	X	X	X
	32	-	X	X	X	-	X	X	X	-	X	X	X
	34	-	X	X	X	-	X	X	X	-	X	X	X
	36	-	X	X	X	-	X	X	X	-	X	X	X
	38	-	X	X	X	-	X	X	X	-	X	X	X
16"	26	-	X	X	X	-	X	X	X	-	X	X	X
	30	-	X	X	X	-	X	X	X	-	X	X	X
	32	-	X	X	X	-	X	X	X	-	X	X	X
	34	-	X	X	X	-	X	X	X	-	X	X	X
	36	-	X	X	X	-	X	X	X	-	X	X	X
	38	-	X	X	X	-	X	X	X	-	X	X	X

INSTALLING THE GLUED FLOOR SYSTEM

1. Wipe any mud, dirt, water, or ice from I-joist flanges before gluing.
2. Snap a chalk line across the I-joists four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
3. Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
4. Lay the first panel with tongue side to the wall, and nail in place. This protects the tongue of the next panel from damage when tapped into place with a block and sledgehammer.
5. Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joist. Apply glue in a winding pattern on wide areas, such as with double I-joists.
6. Apply two lines of glue on I-joists where panel ends butt to assure proper gluing of each end.
7. After the first row of panels is in place, spread glue in the groove of one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/8 inch) than used on I-joist flanges.
8. Tap the second row of panels into place, using a block to protect groove edges.
9. Stagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch at all edges, including T&G edges, is recommended. (Use a spacer tool or an 2-1/2" common nail to assure accurate and consistent spacing.)
10. **Complete all nailing of each panel before glue sets.** Check the manufacturer's recommendations for cure time. (Warm weather accelerates glue setting.) Use 2" ring- or screw-shank nails for panels 3/4-inch thick or less, and 2-1/2" ring- or screw-shank nails for thicker panels. Space nails per the table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the glue bond.

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

Maximum Joist Spacing (in.)	Minimum Panel Thickness (in.)	Common Wire or Spiral Nails	Nail Size and Type	Maximum Spacing of Fasteners
16	5/8	2"	1-3/4"	2"
20	5/8	2"	1-3/4"	2"
24	3/4	2"	1-3/4"	2"

1. Fasteners of sheathing and subflooring shall conform to the above table.
2. Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown driven with the crown parallel to framing.
3. Flooring screws shall not be less than 1/8-inch in diameter.
4. Special conditions may impose heavy traffic and concentrated loads that require construction in excess of the minimums shown.
5. Use only adhesives conforming to CAN/CGSB-71.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Framing for Floor System, applied in accordance with the manufacturer's recommendations. If OSB panels with sealed surfaces and edges are to be used, use only solvent-based glues; check with panel manufacturer.

Ref: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

IMPORTANT NOTE:
Floor sheathing must be field glued to the I-joist flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joist spans must be verified with your local distributor.

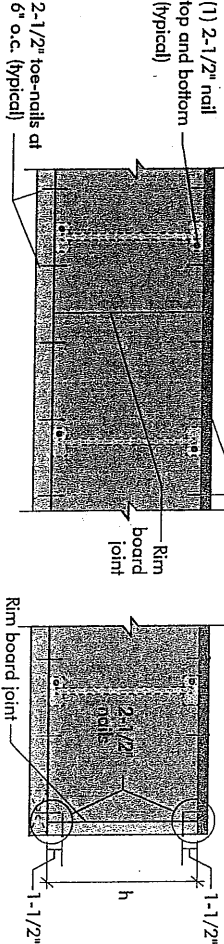
RIM BOARD INSTALLATION DETAILS

8a ATTACHMENT DETAILS WHERE RIM BOARDS ABOUT

Rim board Joint Between Floor Joists

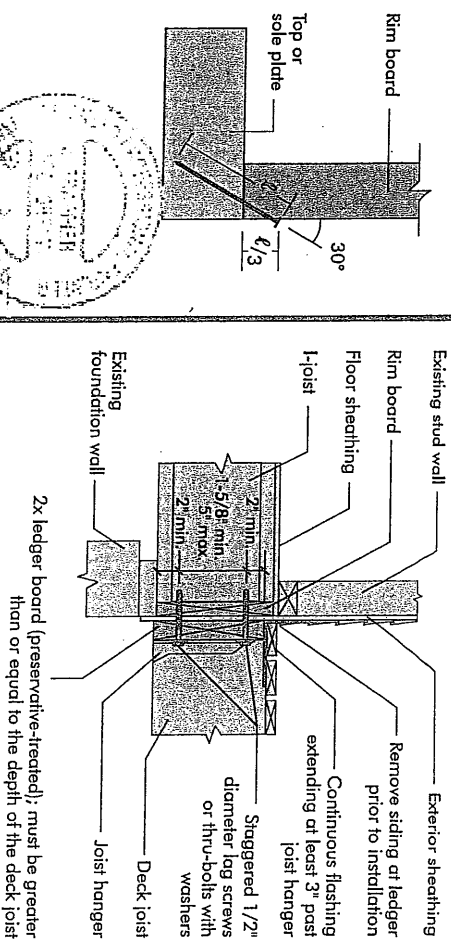
2-1/2" nails at 6" o.c. (typical)

Rim board Joint at Corner



8b TOE-NAIL CONNECTION AT RIM BOARD

8c 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL



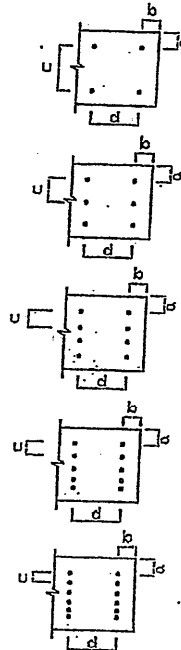
2015-04-16

PRODUCT WARRANTY

Customer Obligations guarantee here, in accordance with our specifications. These products are free from manufacturing defects in material and workmanship.

Furthermore, Customer Obligations 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.

LVL HEADER AND CONVENTIONAL LUMBER NAILING DETAILS		
DETAIL NUMBER	NUMBER OF ROWS	SPACING (INCHES o/c) "d"
A	2	12
B	2	8
C	2	6
D	2	4
1A	3	12
1B	3	8
1C	3	6
1D	3	4
2A	4	12
2B	4	8
2C	4	6
2D	4	4
3A	5	12
3B	5	8
3C	5	6
3D	5	4
4A	6	12
4B	6	8
4C	6	6
4D	6	4



NOTES:

- (1) MINIMUM LUMBER EDGE DISTANCE "a" = 1"
- (2) MINIMUM LUMBER END DISTANCE "b" = 2"
- (3) MINIMUM NAIL ROW SPACING "c" = 2"
- (4) STAGGER NAILS "d/2" BETWEEN PLYS FOR MULTI-PLY MEMBERS (3 PLY OR MORE)
- (5) ALL NAILS ARE 3-1/2" ARDOX SPIRAL NAILS
- (6) DO NOT USE AIR-DRIVEN NAILS



DWG NO TAMN1001-14

STRUCTURAL

COMPONENT ONLY

TO BE USED ONLY
WITH BEAM CLOS
BEARING THE
STAMP BELOW

PROVIDE NAILING
DETAIL # X SEE
DWG #TAMN1001-14