

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	32
J2	10-00-00	9 1/2" NI-40x	1	17
J3	8-00-00	9 1/2" NI-40x	1	15
J4	6-00-00	9 1/2" NI-40x	1	3
J5	2-00-00	9 1/2" NI-40x	1	4
B3	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	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	2	2
B4	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1 .
B5	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1 .
В6	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

C	Connector	Summary
Qty	Manuf	Product
13	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H2	HUS1.81/10
1	H2	HUS1.81/10



FROM PLAN DATED:

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: TH4

ELEVATION: A,B

LOT:

CITY: ST CATHERINES

SALESMAN: M D DESIGNER: AJ REVISION:

NOTES:

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

LOADING:

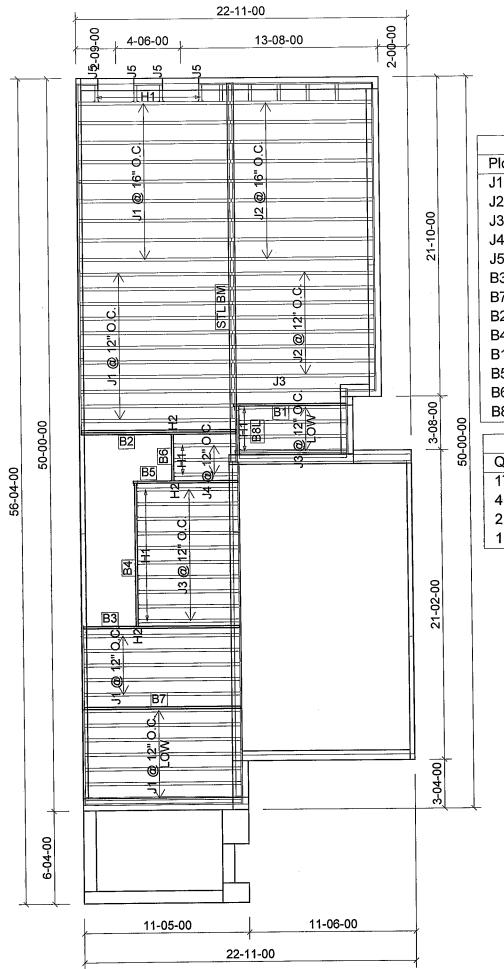
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 10/27/2018

1st FLOOR

STANDARD



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	12-00-00	9 1/2" NI-40x	1	32
J2	10-00-00	9 1/2" NI-40x	1	17
J3	8-00-00	9 1/2" NI-40x	1	15
J4	6-00-00	9 1/2" NI-40x	1	3
J5	2-00-00	9 1/2" NI-40x	1	4
B3	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	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	2	2
B4	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B1	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B8L	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

C	Connector	Summary
Qty	Manuf	Product
17	H1	IUS2.56/9.5
4	H1	IUS2.56/9.5
2	H2	HUS1.81/10
1	H2	HUS1.81/10



FROM PLAN DATED:

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: TH4

ELEVATION: A,B

LOT:

CITY: ST CATHERINES

SALESMAN: M D DESIGNER: AJ REVISION:

NOTES:

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

LOADING:

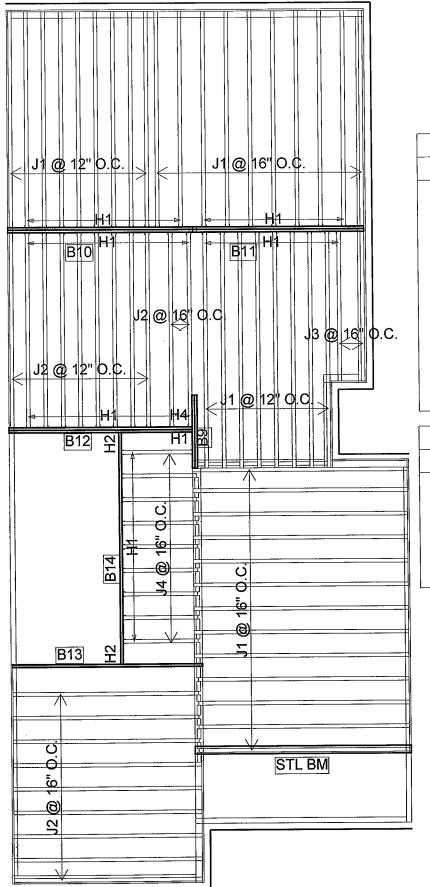
DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 10/27/2018

1st FLOOR

SUNKEN



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	40
J2	12-00-00	9 1/2" NI-40x	1	20
J3	10-00-00	9 1/2" NI-40x	1	2
J4	6-00-00	9 1/2" NI-40x	1	9
B14	14-00-00	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	1	1
B10	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B12	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

C	Connector Summary							
Qty	Manuf	Product						
9	H1	IUS2.56/9.5						
47	H1	IUS2.56/9.5						
1	H2	HUS1.81/10						
1	H2	HUS1.81/10						
1	H4	HGUS410						



FROM PLAN DATED:

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: TH4

ELEVATION: A,

LOT:

CITY: ST CATHERINES

SALESMAN: M D DESIGNER: AJ REVISION:

NOTES:

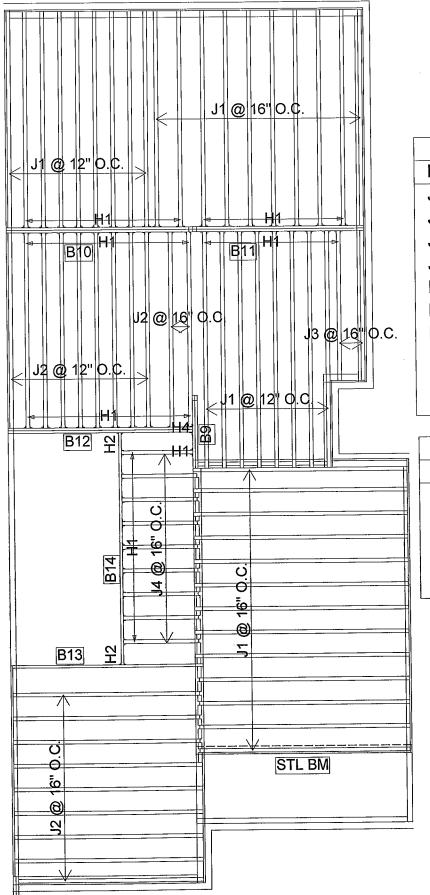
REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2** S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING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

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

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 10/27/2018

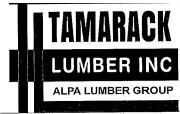
2nd FLOOR



BBO

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	40
J2	12-00-00	9 1/2" NI-40x	1	20
J3	10-00-00	9 1/2" NI-40x	1	2
J4	6-00-00	9 1/2" NI-40x	1	9
B14	14-00-00	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	1	1
B10	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B12	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2

C	Connector	Summary
Qty	Manuf	Product
9	H1	IUS2.56/9.5
47	H1	IUS2.56/9.5
1	H2	HUS1.81/10
1	H2	HUS1.81/10
1	H4	HGUS410



FROM PLAN DATED:

BUILDER: BAYVIEW WELLINGTON

SITE: PASSAGE ON THE CANAL

MODEL: TH4

ELEVATION: B

LOT:

CITY: ST CATHERINES

SALESMAN: M D DESIGNER: AJ REVISION:

NOTES:

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

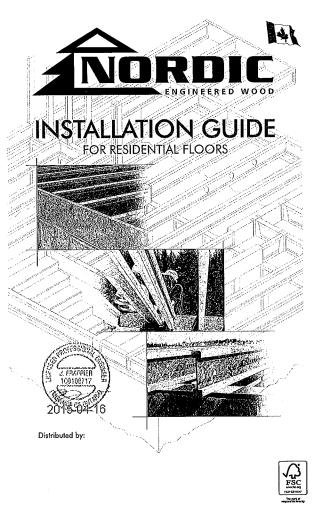
LOADING:

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

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-01-29

2nd FLOOR



SAFETY AND CONSTRUCTION PRECAUTIONS

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



Never stack building materials over unsheathed I-joists. Once sheathed, do not over-stress 1-joist with concentrated loads from building materials.

I-joists are not stable until completely installed, and will not carry any load until full braced and sheathed. Avoid Accidents by Following these Important Guidelines:

Brace and nail each Lights as it is intalled, using hongers, blacking panels, rim board, and/or cross-bridging at joist ends. When Lights are applied continuous over interior supports and a load-bearing wall is planned at that location, blacking will be required at the interior support.

 When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist 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" noils fastened to the top surface of each Lipist. Noil the bracing to a lateral restraint at the end of each boy. Lop ends of adjoining bracing over at least two Lipists.

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.

For cantilevered 1-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.

 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 fallow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

MAXIMUM FLOOR SPANS

- . Maximum clear spans applicable to simple-span or multiple-span residential floor construction with a design live load of 19 psf and dead load of 15 psf. The ultimate limit stales 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 1/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- or more of mia augacien spain.

 2. Spans are based on a composite floor with glued-nailed criented strand board (OSB) sheathing with a minimum thickness of S/B 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 COBS-7.1.26
 Standard. No concrete topping or bridging element was assumed, increased spans may be achieved with the used of gypsum and/or a row of blacking 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.
- 6. Tables are based on Limit States Design per CAN/CSA O86-09 Standard, and NBC 2010.
- 7. SI units conversion: 1 inch = 25.4 mm 1 foot = 0.305 m

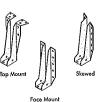
MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS

Depth	Series			3500113	200			and agent, and	Real control
		12"	16"	19.2	24"	12"	16"	19,2"	24"
10 M 6	NI-20	15'-1"	14'-2' .	13'-9"	13'-5"	16'-3"	15'-4'	14'-10"	14'-7"
	NI-40x	16'-1'	15'-2"	14'-8"	14'-9"	17'-5"	16'-5"	15'-10"	15'-5"
9.1/2"	NI-60	16'-3'	15'-4"	14'-10"	14-111	17'-7"	16'-7"	16'-0"	16'-1"
4.7	NI-70	17'-1"	16'-1"	15'-6"	15'-7"	18'-7"	17'-4"	16'-9"	16'-10"
20.885	NI-B0	17'-3"	16'-3'	15'-8'	15'-9"	18'-10"	17'-6"	16'-11'	17'-0"
	NI-20	16'-11"	16'-0"	15'-5"	15'-6"	18'-4"	17'-3"	16'-8"	16'-7"
16.50	NI-40x	18'-1'	17-0	16'-5"	16'-6"	20'-0"	18'-6"	17:-9"	17'-7"
St. 1997	NI-60	18'-4"	17'-3"	16'-7'	16'-9"	20'-3"	18'-9"	18'-0"	18'-1"
11 7/8	NI-70	19-6*	18'-0"	17'-4"	17'-5'	21'-6"	19'-11"	19'-0"	19'-1"
	NI-80	19'-9"	18'-3'	17'-6"	17'-7*	21'-9"	20'-2"	19'-3"	19'-4'
	NI-90	20'-2"	18'-7'	17'-10"	17'-11"	22-3	20'-7"	19'-8"	19:-9*
Barrier 198	NI-90x	20'-4"	18'-9"	17'-11'	18'-0"	22'-5"	20'-9"	19'-10"	19'-11"
7. 7.	NI-40x	20'-1"	18'-7"	17'-10"	17'-11"	22'-2"	20'-6"	19'-8'	19'-4"
	NI-60	20'-5"	18'-11"	18'-1"	18'-2"	22'-7"	20'-11"	20'-0"	20'-1"
特点 病病	NI-70	21'-7"	20'-0"	19-1*	19'-2"	23'-10"	22'-1"	21'-1"	21'-2'
14	NI-80	21'-11"	20'-3"	19-4*	19'-5"	24'-3"	22'-5'	21'-5"	211-6*
	NI-90	22'-5"	20'-8"	19'-9'	19'-10"	24-9	22'-10"	21'-10"	21'-10"
	NI-90x	22'-7'	20'-11"	19'-11"	20'-0"	25'-0"	23'-1"	22'-0"	22'-2"
27 15 1	NI-60	22'-3'	20'-8"	19-9	19'-10'	24'-7"	22'-9"	21'-9'	21'-10"
40.15	NI-70	23'-6"	21-9	20'-9"	20'-10'	26'-0"	24'-0"	22'-11'	23'-0"
169	NI-80	23'-11"	22'-1'	21'-1"	21'-2'	26'-5*	24'-5"	23'-3"	23'-4"
55.5%	NI-90	24'-5"	22'-6'	21'-5"	21'-6"	26'-11'	24'-10"	23'-9"	23'-9"
	NI-90x	24'-8"	22'-9"	21'-9"	21'-10"	27'-3'	25'-2"	24'-0"	24'-1"

CCMC EVALUATION REPORT 13032-R

I-JOIST HANGERS

- Hangers shown illustrate the three most commonly used metal hanger to support I-joists.
- 2. All nailing must meet the hanger
- 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.



STORAGE AND HANDLING GUIDELINES

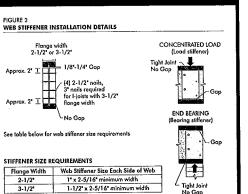
- i. Bundle wrap can be slippery when wet. Avoid walking on wrapped
- 2. Stare, stack, and handle 1-joists vertically and level only. 3. Always stack and handle 1-joists in the upright position only.
- 4. Do not store I-joists in direct contact with the ground and/or flatwise.
- 5. Protect I-joists from weather, and use spacers to separate bundles. -
- 6. Bundled units should be kept infact 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 !-joists in a horizontal orientation.
- 9 NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.

WEB STIFFENERS RECOMMENDATIONS:

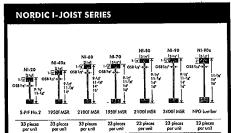
- A bearing stiffener is required in all engineered applications with factored engineered applications with factored reactions greater than shown in the Ljoist properties table found of the Ljoist Construction Guide (C101). The gap betwithe stiffener and the flange is at the top.
- A bearing stiffener 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 his is applied to the top flange between supports, or in the case of a cantilever, anywhere between the cantilever to and the support. These values are for standard term load duration, and may be adjusted for other load durations, and may be adjusted for other load durations as permittly the code. The gap between the stiffener and the flange is at the bottom.

SI units conversion: 1 inch = 25.4 mm

(10)



(tg)

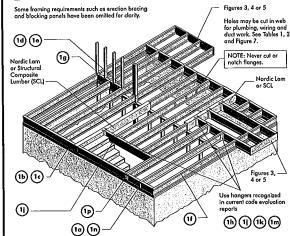


Chantiers Chibouagmau Ltd. harvests its own trees, which enables his products to adhere to strict quality control procedures through the products to adhere to strict quality control procedures through the product, reflects our commitment to quality. Nordic Engineered Wood Ljoists use only finger-jointed back specification in their flonges, ensuring consistent quality, superior systems of the specific systems of the speci 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, contributions
- 2. Except for cutting to length, 1-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. 1-joists must be anchored securely to supports before floor sheathing is attached, and supports forting
- 5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bea
- 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 blacking 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
- 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 ponels or other engineered wood products – such as rim board – must be out to fit between the I-joists, and an I-joists-composible depth selected.
- 13. Provide permanent lateral support of the bottom flange of all Lioists at interior supports of multiple-span joists. Similarly, support the bottom flange of all confilerered Lioists at the end support next to the confilerer extension. In the completed structure, the gyssum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or strute must be used.
- 14. If square-edge panels are used, edges must be supported between 1-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. Noil spacing: Space noils installed to the flonge's top face in accordance with the applicable building code requirements a approved building plans.

TYPICAL NORDIC 1-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS



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 tumber assumed to be Spruce-fine-fir No. 2 or better, Individual components nat shown to scale for clarity.

bearing below. Install squash blocks per detail 1d. Match bearing area of blocks below to post above. Rim board may be used in lieu of L-joists. Backer is not required when rim board is used. Bracing per code shall be carried to the foundation. Nordic Lam or SCL ⑽ Top- or face-mount hanger - installed per manufacturer's recommendations

For nailing schedules for multiple

(lk) Top-mount hanger installed per -

Use single I-joist for loads up to 3,300 plf, double I-joists for loads up to 6,600 plf (filler block not

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

Install hanger per .../ manufacturer's

attachment per detail 1b

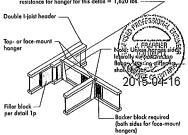
6" a.c. to top plate

Maximum support capacity = 1,620 lbs

... NI blocking pane per detail 1 c

Multiple I-joist header with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist capacity to support Do not bevel-cut joist beyond inside face of wall ——— -joist per letail 1b Note: Blocking required at bearing for lateral support, not shown for clarity.

(1h) Backer block (use if hangar load exceeds 360 lbs)
Before installing a backer block to a double 1-joist, drive three
additional 3° nais through the web and filler block where the
backer block will fit. Clinch. Install backer tight to top flange.
Use threely 3° nails, clinched when possible. Maximum factored
resistance for hanger for this detail = 1,620 lbs. Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by this detail.

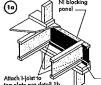


BACKER BLOCKS (Blocks must be long enough to permit required

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 moterial shall be S-P.F No. 2 or belter for solid sown lumber and wood structural panels conforming to CAN/CSA-0325 or CAN/CSA-0437 Standard.

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



2-1/2" nails at 2-1/2" noils of 6" o.c. to lop plate (when used for lateral shear transfer, nail to bearing plate with some nailing as required for decking)

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 hes or less and is based on stand 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 board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c. To avoid splitting flange, start noils at least 1-1/2' from end of I-joist. Nails nay be driven at an angle ta d splitting of bearing plate.

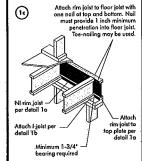
/ EDAMPIER

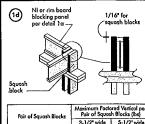
nullicate span

2015-04-16

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

1-1/8* Rim Board Plus 8,090 *The uniform vertical load is limited to a rim board depth of 16 inches or loss and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, headt, or rother. For concentrated vertical load transfer, see detail 1d.



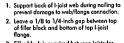


2x'Lumber 5,500 8,500 1-1/8' Rim Board Plus 4,300 6,600

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

10 – Filler block LOffset nails from

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



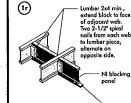
 Filler block is required between joists for full length of span. Noil joists together with two rows of 3* noils at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of four noils per foot required. If noils can be clinched, only two nails per foot are required.

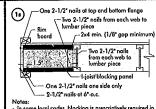
5. The maximum-factored toad that may be opplied to one side of the double joist using this detail is 860 lbf/ft. Verify double 1-joist capacity.

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

3-1/2"× 11-7/8" 2" 14" 16"

(Im)





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 focal code requirements for spacing of the blocking.
All nails are common spiral in this detail.

l-joist to top plate per detail 1b

2-1/2*

(1d)



FSC fortises of second second

N1-20 9-1/2* 11-7/4* 14" <u>₽</u> 1950FASR 2100f MSR 1950f MSR 2100f MSR 2400f MSR NPG Lumber S-P-F No.2 33 nieces 33 pieces 23 pieces 23 pieces

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

WEB HOLE SPECIFICATIONS

FIGURE 7

- 1. The distance between the inside edge of the support and the controlling of any hale or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- 2. I-jaist top and bottom fonges 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 chose opening that can be cut into an Lipist was shall equal the dear distance between the flurges of the Lipist 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 Lipist flurge.

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

- 5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of he diameter of the maximum round hale namified at that location.
- Where more than one hole is necessary, the distonce between adjacent hole adges shall exceed twice the diameter of the largest round hole or twice the size of the largest round hole or twice th shall exceed twice the diameter of the langest side of the langest rectangular hole or equate hole (or twice the langth of the langest side of the langest rectangular hole or duct chose opening) and each hole and duct chose opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.

 A knockout is not considered a hole, may be utilized anywhere it accurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct
- chase openings.

 3. Holes measuring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a jaist. 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 chose openings shall be cut in a workman-like Ilustrated in Figure 7.
- 11. Limit three maximum size holes per span, of which one may be
- a dust chase aparing.

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

DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

			N	linimun	Distor	ce fro	m Insid	e Face	of Any	Support	to Cet	ire of	Hole (ff	- in.]				ioist	Joist
Joist Depth	Joist Series						Rou	nd Hole	e Diame	tor (in.	1							epth	Series
Cehin	201107	2	3	4	5	6	6-1/4	7		8-5/8	9	10	10-3/4	11	12	12-3/4	ļ		
	NI-20	0'-7"	1'-6'	2'-10"	4'-3"	5'-8'	6'-0"						P.0.0	***				1	NI-20
	NI-40x	0'-7"	1'-6'	3'-0'	4'-4"	6'-0"	6'-4'		***		•••			***			1_	1	N1-40x
9-1/21	NI-60	1'-3"	2'-6'	4'-0'	5'-4"	7'-0"	7'-5'				•••			•••	***	·-	9-	1/2"	NI-60
	NI-70	2'-0'	3'-4'	459	6'-3"	8'-0"	B'-4"		•								į į		NI-70 NI-80
	NI-80	2'-3"	3'-6'	5'-0'	6'-6"	8'-2"	8,8,		***			710	***	7/7		***			
	NI-20	0'-7"	0'-8'	1'-0"	2 4	3'-8"	4'-0"	5'-0'	6'-6'	7-91						***			NI-20 NI-40x
	NI-40x	0'-7"	0'-6"	1.3	2'-8"	4'-0"	4'-4"	5'-5"	7'-0'	8'-4"								- 1	NI-60
	NI-60	0.7	1'-6'	3'-0"	4'-3"	5'-9"	6'-0"	7:-3'	8-10	10'-0"						*/*	١,,	1-7/8*	NI-70
11-7/8	NI-70	1.3"	2'-6'	4-0	5'-4"	6-9"	7'-2*	8'-4'	10'-0'	11'-2"						11.0	1 1	1.1/0	NI-BO
	0B-IM	1.6	2-10	4'-2"	5'-6"	7.0	7'-5	8'-6'	10/3	111.6"			•••		***	***	1	ſ	NI-90
	NI-90	6'-7"	0,-8,	3'-5"	3'-2"	4-10		66.	8'-9'	10'-2"			*				- 1	- 1	NJ-90x
	NI-90x	0-7	08.	0'-9"	2-5	4.4"	41-9"	6'-3'		6'-0'	6'-6'	Br-3"	10'-2"	 -			⊢		NI-40x
	NI-40x	0.7"	0-8	0-8	1.0	2.4	21-94	3'-9"	5\2" 7\2"	8-0	8-8	10'-4"	11-9						NI-60
	NI-60	0'-7"	0.8.	1'-8"	3.0	4'-3"	4'-8"	5'-8' 7'-3'	8-9	9.0	10'-4"		13-5				1.		NI-70
14"	NI-70	0'-8"	1'-10"		4'-5"	5-10	6.5	7-6	9.0°	10.0	107-81		13'-9"				1.	4°	NI-80
	NI-80	0:10	2.0	3'-4"	4'-9'	6-2	42-54	5-9	7-5	8'-8"	9-4	11'-4"	12-11				1		NI-90
	NI-90	0-7	08.	0'-1 0 " 0'-8"	2'-5' 2'-0'	4'-0' 3'-9'	4'-2'	5'-5"	7:3	8'-5"	9-21		16-11				1		NI-90x
,	NI-90x	0'-7"				2'-10		4-2	5.6	6'-4"	7:0	B'-5"	7'-8°	105-9	12-2	13'-9"	<u> </u>		M-60
	NI-60	0'-7'	08,	0'-8"	1'-6' 3'-6'	4-10		6-3	7-8	8'-6"	912	10-8			14.0		1		NI-70
	NI-70	0'-7'	1'-3'	2'-3" 2-6"	3-10	5-3	5'-6'	6.6	8:0	9.0	9.5	111-0			14.5		1 1	G !	NI-80
16"	NI-80	0'-7'	0-8	0-8	3-10	3-3	31.84	41.91	6'-5'	7.5	8-0	9-10			13.5		1 '	•	NI-90
	NI-90	0-7	0'-B"	0-9	5,0,	3-6	4.0	5'-0'	6.9	71.91	8-4	10.2		12-0		70	1		NI-90x
	NI-90x	10-/	U-D	U-7	2-0	4-0	-140		~-,								•		

- Above table may be used for 1-joist spacing of 24 inches on centre or less.
 Hale location distance is measured from inside face of supports to centre of hale.
 Distances in this chart are based on uniformly tooded joists.
 The above table is based on the 1-joists being used of their maximum spans. The minimum distance as given above may be reduced.

FIELD-CUT HOLE LOCATOR

		Walliston disidire sons diside idea of supports to carrie of opening in									
Joist Depth	Joist Series		Duct Chase Longth (in.)								
Debu	361163	8	10	12	34	16	18	20	22	24	
	NI-20	4'-1'	41.51	Z'-10"	5-4"	5'-8"	6'-1"	5'-6"	7-1"	7'-5"	
	N1-40x	5'-3'	5'-8'	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8,-5,	8'-6"	
9-1/2"	NI-60	5'-4'	5'-9"	6421	6'-7"	7'-1"	7-5	8-0-	8-3	8'-9"	
• • •	N-70	5'-1"	5-5	5'-10"	6'-3"	6'-7"	7'-1"	7'-6'	8'-1"	8-4	
	N1-80	5'-3'	5'-8"	6'-0'	6'-5"	6'-10'	7'-3"	7'-8'	8'-2"	8-6	
	NI-20	51.91	6'-2'	6'-6'	7'-1"	71.5"	7'-9'	8/3/	8'-9"	9'-4"	
	NI-40x	6'-8'	7'-2"	7'-6'	B'-1"	8'-6°	9'-1"	9-6	10.1	10-9"	
	NI-60	71.31	718	8'-0'	8r-6u	9-0	9-31	9'-9'	10'-3'	11.0	
11-7/8*	NI-70	7.1*	71.4	7-9	8,-3,	8'-7"	3-1	9'-6"	10'-1"	10'-4"	
	NI-BO	71.21	7'-7"	8'-0"	8'-5"	8'-10"	9:-3:	9'-B'	10'-2"	1048	
	NI-90	7'-6"	74111	8'-4"	8'-9"	9'-2	9-7	10'-1"	10'-7"	10-11	
	NJ-90x	71-71	81-14	8'-5"	8-10	9-4*	91.8"	10'-2"	10'-8"	111-24	
	NI-40x	8'-1'	81.71	9'-0"	9'-6"	10'-1°	10'-7"	11-2	12-0	12-8	
	NI-60	8-9'	9'-3"	9'.8"	10'-1'	10-6	11:1"	11'-6"	13'-3"	13-0	
14*	Ni-70	8'-7'	9'-1"	9'-5"	9-10	10-4*	10-8	11'-2'	11'-7"	12'-3'	
14	NI-80	9-0'	93.	9-9	10:-1:	10'-7"	11'-1"	13'-6"	12-11	12'-6'	
	NI-90	9-21	9.81	10'-0"	10'-6'	10-11		11'-9'	12'-4"	12-1	
	NI-90x_	9'-4'	8-8,	10:3*	10'-7'	11'-1"	11'-7"	12'-1"	12-71	13-2	
	M-60	10'-3"	10'-8"	11-2	11-6	12-1"	12-6	13'-2"	14-1	14-1	
	NI-70	10-7	30'-5"	11,-0,,	11-4	11410			13'-3"	14'-0'	
16*	NI-80	10-4"	10'-9"	11'-3°	11-9	12'-3"	12-7		13-8	14'-4'	
	NI-90	10-9"	111-2"	1148"	12'-0"	12'-6"	13'-0'	13'-6"	14'-2'	14-10	
	NH 00-	171.75	7 7 8 5 5 11	376 100	1.31.40	10,10	1 121.71	121.00	146.60	151.0	

Knockouts are prescored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter,

and are spaced 15 inches on centre along the length of the Lipist. Where possible, it is preferable to use knockouts instead of field-cut holes.

For rectangular holes, avoid over-cutting the corners, as this can cause ror rectanguar noise, avoid over-cuising the corners, as this can cause unnecessing stress concentrations. Slightly rounding the corners is recommended. Stating the reclangular 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 1-fast.

	1.2.	Minimu	ım distan					nire of c	ព្រះហេង្ហា	A - in.)
Joist Depth	Joist Series				Duct Ch	aso Long	th (in.)			
Depili	Selles	8	10	12	3.4	16	18	20	22	24
	NI-20	4'-1'	4'-5'	4110°	5-4"	5'-8"	6'-1"	5'-6"	7-1"	7-5
	N1-40x	5'-3'	5'-8'	6-0"	6'-5"	6'-10"	7′-3"	7'-8"	8'-2'	8'-6"
7-1/2"	NI-60	5'-4'	5'-9'	51.21	6'-7"	7'-1"	7'-5'	8-0-	8-3	8'-9"
′ ''-	NI-70	5'-1"	5'-5"	5'-10"	6'-3"	6'-7"	71-11	7'-6'	8'-1"	8'-4"
	NI-80	5'-3'	5'-8"	6'-0'	6'-5"	6'-10"	7'-3"	7'-8'	8'-2	8-6
	NI-20	5'-9'	61.21	6'-6'	7'-1'	745"	7'-9'	8,3,	8'-9"	9'-4"
11-7/8*	NI-40x	6'-8"	7'-2"	7'-6'	B*-1"	8'-6°	9'-1"	9.6	10:1	10-9"
	NI-60	71.31	748*	B'-D'	Br-6"	9-0	9'-3'	99,	10'-3'	11.0
	NI-70	7:1"	71.4	7'-9'	8,-3,	8'-7"	9-1	9'-6"	10'-1"	10'-4"
	NI-BO	7'-2'	71-7*	8-0"	8'-5"	8'-10"	9:-3:	9-B	10'-2'	1048
	NI-90	7'-6"	74111	8'-4"	8'-9"	9'-2"	9'-7"	10'-1 "	10'-7"	10:11
	NJ-90x	71.71	8'-1°	8'-5"	8'-10'	9-4	9'-8"	10'-2"	10'-8"	111-24
	NI-40x	8'-1'	81.7*	2'-0"	9'-6"	10-10	10-7*	111-2"	12'-0"	12-8
	NI-60	8-9'	9'-3"	9'-8"	10'-1'	10-6	11'-1"	11'-6"	13'-3"	13'-0"
	NI-70	81.71	9'-1"	9'-5"	9'-10'	10-4*	10-8	11'-2'	11'-7"	12-3
14"	NI-80	9-01	9-3"	9-9	10-1	10'-7"	11'-1"	11'-6"	12-11	12.6
	NI-90	9.2	9.81	10'-0"	10'-6'	10-11		11'-9"	12'-4"	12-11
	NI-90x	9'-4'	8-8.	10.3	10'-7'	11'-1"	11.7	12'-1"	12'-7'	13-2
	10.60	10-3"	10'-8"	1342	11-6	12-1"	12.6	13-2"	14-1	14'-10
	NI-70	10-1	30'-5"	11'-0"	11'-4"	11410		12'-8"	13'-3"	14.0
16*	NI-80	10'-4'	10'-9"	31'-3°	11-9	12'-1"	12-7	13'-1"	13'-8"	14-4
	NI-90	10-9°	111-2"	1148"	12'-0"	12'-6"	13'-0'	13'-6"	14'-2'	14-10
	NI-90x	1747"	111-5"	17410	1254	12'-10	13.2"	13'-9"	14-4	15'-2'

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

 Duct chose opening faculton distance is measured from inside face of supports to centre of opening. The above table is based on simple-span joists only. For other opplications, contact your local distributor. Distances are based on uniformly located floor joists that meet the span requirements for a design five local of 40 pst and dead local of 15 pst, and a live local deflection limit of 1/480.

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

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

WEB STIFFENERS RECOMMENDATIONS:

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

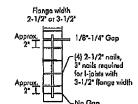
opposite face by 6"

- A bearing stiffener is required when the I-joist is supported in a honger and the sides of the honger do not extend up to, and support, the lop flange. The gap between the stiffener and flange is at the top.
- A land stiffener is required at locations where a featored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the case of a contilever, onywhere between the contilever fip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

WEB STIFFENER INSTALLATION DETAILS

9-1/2* 11-7/8* 14* 16*

11-7/8° 14° 16°



NOTES:

FND BEARING (Bearing stiffener STIFFENER SIZE REQUIREMENTS Web Stiffener Size Each Side of Web 1" x 2-5/16" 2-1/2*



- 5 News install a domoned hinist.

CHANTIERS

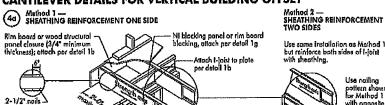
Never drill, cut or notch the flange, or over-cut the web

Holes in webs should be cut with a sharp saw.

PRODUCT WARRANTY

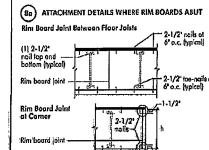
Chansiers Chibougaman guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furshermore, Chantiers Chibongaman warrants that our products, hen utilized in accordance with our handling and installation instruction will meet or exceed our specifications for the lifetime of the structure

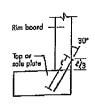


NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4) required on sides of joist. Depth shall match the full height of the joist. Not with 2-1/2* note of 6* a.c., top and bottom flangs. Install with face grain horizontal. Attach 1-joist to plate at all supports per detail 1b. Verify reinforced 1-joist capacity.

RIM BOARD INSTALLATION DETAILS



(8b) TOE-NAIL CONNECTION AT RIM BOARD



each side at bearing

inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, suc as joist, header, or rafter. For contentrated vertical load 2-1/2' nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing as required for decking)

Maximum Factored Uniform Vertical Load* (plf)

3,300

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

8,500

5,500

1-1/8' Rim Board Flus 4,300 6,600

Minimum Death**

7-1/4*

Provide lateral bracing per detail 1a or 1b

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

transfer, see detail 1d.

2x Lumber

(1h) Bocker block (use if hunger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" noils through the webs and filler block where the backer block will fit. Clinch. Install backer light to top flange. Use twelve 3" noils, clinched

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

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

(m)

- Fille:

Maximum support

capacity = 1,620 lbs.

1. Support back of l-joist web during nailing to prevent

and bottom of top 1-joist flange.

3. Filler black is required between joists for full length

damage to web/flange connection.

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

of span.

4. Nail joists together with two raws of 3' noils of 12 inches o.c. (clinched when possible) on each side of the double

icioss, total of rour natis per tota required. If natis can be cliniched, only two natis per foot are required.

5. The maximum factored load that may be applied to one side of the double foit using this detail is 860 lbt/fit. Varily double 1-joist capacity.

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

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

For loca-inpunit hangers use net joist depth minus 3-1/4 for joists with 1-1/2" thick flanges

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

Moterial Thickness Required*

For 2" thick flanges use not depth minus 4-1/4".

FILLER BLOCK REQUIREMENTS FOR DOUBLE (-JOIST

- 2x plate flush with inside face of wall

ar beam. 1/8' overhang allowed

est inside face of wall or beam

sides laterally suppo the ton flance, be

- NI or rim board blocking

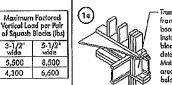
To avoid splitting flange, start nails at least 1-1/2" from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

Blocking Panel

or Rim Joist

1-1/8" Rim Board Plus

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



filler block

Multiple I-joist header with full dopth filler

black shown. Nordic Lam or SCL headers

may also be used. Verify double 1-joist

nails, clinch when possible.

~ Install hanger per

2-1/2° x

1-1/2*

3-1/2°× 1-1/2°

3-1/2° x

Top- or face-mount

bearing below Install squash blocks per Match bearing area of blocks below to post

ner defail 1 b 2-1/2' nails at 6" o.c.

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

Vertical Loods (plf)

*The uniform vertical load is limited to a rim board depth of 16 inshes or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as i

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

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

One 2-1/2" wire or spirel noil at top and bottom flange

-NI blocking panel per detail la

- Double I-joist header

fboth sides for face-

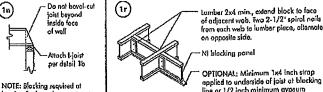
sides laterally support

For hanger capacity see hanger manufacturer's recommendations. Yerily double 1-joist capacity to support

(1n)

1 Mardie Lam o Structural Composite Lumber (SCL) For nailing schedules for multiple beoms, see the manufacturer's or face-mount hange installed per manufacturer's

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



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

bearing for lateral support, not shown for clarity. One 2-1/2" noil of top and bottom flange -2x4 min. (1/8° gap minimum) Two 2-1/2" nails 1 Two 2-1/2 nais from each web to lumber piece - I-ioisi blocking gang

ore assumed to be One 2-1/2" noil one side only In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the storter joist. Where required, see local codo requirements for spacing of the blocking.

uniess otherwise noted. 3° (0.122° dia.) common spiral nails may be substituted for may be substituted for 2-1/2" (0.128" dia.) rommon wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual

All nails shown in

the above det

CONCENTRATED LOAD

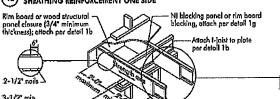
2-1/8' x 6' 2-1/8' x 8' 2-1/6' x 10'

2-1/8' x 12'

3' x 7" 3' x 9" 3' x 11'

1-1/2" x 2-5/16" 3-1/2"

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET



See the adjacent table for web stiffener size requirements

Use nailing

pottern show for Method 1 with opposite



Never stock building materials over unsheathed i-joists. Once sheathed, do not over-stress

Do not wolk on I-joists until fully tastoned and broced, or scribus injuries can result.

SAFETY AND CONSTRUCTION PRECAUTIONS

WARNING: Hoiets are not stable until completely installed, and will not camp any lood until fully braced and sheathed, AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

Majotoja minimum 1/8° saaca batween top and

3/4x

ANOID ACCIDENTS BY FOLLOWING TIESE (TO CHAPT COLDECTES).

Brace and not leach t-joist as it is installed, using hanger, blacking panels, rim board, and/or cross-bridging at joist ends.

When I-joists are applied continuous over Interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.

When the building is complied, 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 chealthing must be applied to prevent I-joist rollover.

Duct chase opening (see Table 2 for minimudistance from bearing)

or buckling.

I Temporary bracing or struta must be 1x4 inch minimum, at least B feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2' noils fastened to the top surface of each 1-joist. Nail the bracing to a lateral restraint at the end of each box, top ands of adjoining bracing over at least two 1-joists.

On, sheathing (temporary or permanent) can be noiled to the top flange of the first 4 feet of 1-joists at the end of the box.

For contilevered 1-joists, brace top and battom flanges, and brace ands with closure ponels, firm board, or cross-bridging.

Install and fully noil permanent sheathing to each 1-joist before placing loads on the floor system. Then, stock building moterials over beams are walls only.

Mayer intelliged Advanced Units.

Improper storage or installation, failure to follow applicable building codes, failure to follow apon ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to allow these installation guidelines carefully.

Follow these installation guidelines carefully.



PASSED

1ST FLOOR FRAMING\Flush Beams\B1(i1453)

Dry | 1 span | No cant.

October 27, 2018 11:39:24

BC CALC® Member Report Bulld 6475

Job name:

Customer:

Address:

Code reports:

City, Province, Postal Code: ST ... NES

CCMC 12472-R

File name:

TH4 SUNKEN.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B1(i1453)

Specifier: Designer:

Company:

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The supplementary of the suppl	SECOND PORTER AND PROPERTY OF THE PROPERTY OF	PANTALINA PARTA PA	THE POST OF THE PARTY OF THE PA
文件: [2] [2] [2] [2] [2] [3] [3] [3] [3] [3] [3] [3] [3] [3] [3			《中国报》,《西国报》
SINIONEN CONTRACTOR CO		•	. 🔼

4	07-09-08	and the second second	B2

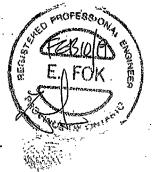
Total Horizontal Product Length = 07-09-06

	ımmary (Down / Up	olift) (lbs) Dead	Snow	Wind
Bearing B1, 2-5/8"	43870	312/0	**************************************	Arabara A. 100 - 1 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 -
B2, 4-3/8"	84/0	61/0		

1	d Commons		•				Live	Dead	Snow	Wind	Tributary	
LO: Tag	ad Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15		
7,68	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-09-06	Töp		5			00-00-00	
4	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	07-09-06	Top	21	10	•		n\a	
י פ	PBO4((646)	Conc. Pt. (lbs)	L.	00-01-00	00-01-00	Top	363	256	•		n\a	

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	337 ft-lbs	11,610 ft-lbs	2.9%	1	03-09-13
End Shear	141 lbs	5,785 lbs	2.4%	1	01-00-02
Total Load Deflection	L/999 (0.009")	n\a	n\a	4	03-09-13
Live Load Deflection	L/999 (0.005")	n\a	n\a	5	03-09-13
Max Defl.	0.009"	n\a	n\a ,	4	03-09-13
Span / Depth	9.3				_

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Rosistance Support	Demand/ Resistance Member	Material	
B1	Beam	2-5/8" x 1-3/4"	1;047 lbs	53.3%	18.7%	Unspecified	
B2	Wall/Plate	4-3/8" x 1-3/4"	203 lbs	6.2%	2.2%	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 Q86.

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

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

DWO NO . YAN 2452- 18H STRUCTURAL COMPONENT ONLY

GUNFURMS TO UBC 2012

T-190200



PASSED

1ST FLOOR FRAMING\Flush Beams\B2(i1475)

BC CALC® Member Report

Build 6475 Job name: Address:

Dry | 1 span | No cant.

October 27, 2018 11:39:24

TH4 SUNKEN.mmdl File name:

1ST FLOOR FRAMING\Fiush Beams\B2(i1475) Description:

Specifier: Designer:

Customer: CCMC 12472-R Code reports:

City, Province, Postal Code: ST ... NES

Company:

	· .	\forall		
The state of the s			Anna Anna Anna Anna Anna Anna Anna Anna	
X				Ш,
	10-0	07-14		B2

Total Horizontal Product Length = 10-07-14

Reaction Summary (Down / Uplift) (lbs) Dead 214/0 321/0 B1, 2-3/8 285/0 B2, 4-1/8" 457 / 0

								Live	Dead	Snow	vvina	inputary	
	ad Summary Description	Load Type	Ref.	Start	End	Loc.	٠.	1.00	0.66	1.00	1.15	····	
Tag		Unf. Lin. (lb/ft)	Land Land	00-00-00	10-07-14	Top			10			00-00-00	
Ď	Self-Weight		Ē	00-00-00	10-07-14	Top		16	8			n\a	•
1	FC3 Floor Material	Unf. Lin. (lb/ft)	} →			Top		Ř	3			n\a	
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L.	00-00-00	06-02-08			40	^			n\a	
~	FC3 Floor Material	Unf. Lln. (lb/ft)	L	06-02-08	10-07-14	Тор		. 18	8				
Ä	Ra/(1471)	Conc. Pt. (lbs)	L	06-03-06	08-03-06	Top		. 491	253			n\a	

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,456 ft-lbs	23,220 ft-lbs	14.9%	1	06-03-06
	945 lbs	11,571 lbs	8,2%	1	09-06-04
End Shear	L/999 (0.079")	n\a	n\a	4	05-06-11
Total Load Deflection	L/999 (0.049") .	n\a	n\a	5	05-06-11
Live Load Deflection Max Defl.	0.079"	n\a	n\a	4	05-06-11
Snan / Denth	12.9				••



Regring	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" x 3-1/2"	749 lbs	21.1%	7.4%	Unspecified
B2	Beam	4-1/8" x 3-1/2"	1,041 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.

CONFORMS TO DBC 2012 Resistance Factor phi has been applied to all presented results per CSA O86.

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

please consult a technical representative or professional of Record.

STRUCTURAL COMPONENT ONLY

T-1902492





PASSED

1ST FLOOR FRAMING\Flush Beams\B2(i1475)

Dry | 1 span | No cant.

October 27, 2018 11:39:24

BC CALC® Member Report

Bulld 6475 Job name:

Address:

City, Province, Postal Code: ST ... NES

Customer: Code reports:

CCMC 12472-R

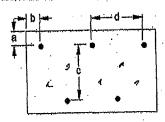
TH4 SUNKEN,mmdi File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B2(i1475)

Specifier: Designer:

Company:

Connection Diagram: Full Length of Member



a minimum =#" b minimum = 3" c = 4-1/2" d = 249"

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



Disclosure

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

BC CALCO, BC FRAMERO, AJS™, ALLJOISTO, BC RIM BOARD™, BCIO, BC RIM BOARD™, BCIO, BC RIM BOARD™, BC FloorValue®, WERSA-LAMO, VERSA-RIM PLUS®, STRUCTURAL COMPONENT ONLY



FAILED

1ST FLOOR FRAMING\Flush Beams\B3(i1470)

Dry | 1 span | No cant.

October 27, 2018 11:39:24

BC CALC® Member Report Build 6475

Job name:

Address:

City, Province, Postal Code: ST ... NES

Customer: Code reports:

CCMC 12472-R

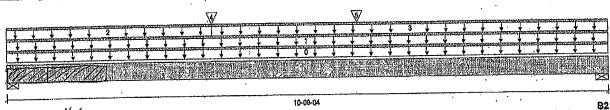
File name: Description: TH4 SUNKEN.mmdl

1ST FLOOR FRAMING\Flush Beams\B3(I1470)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 10-09-04

Snow

Reaction Summary (Down / Uplift) (lbs)

Dead Bearing 535/0 B1, 2-3/8 332/0 509/0 B2, 4-3/8"

1 -	ad Cummanti	÷		* *				Live	Dead	Snow	Wind	Tributary
L.O Tag	ad Summary Description	Load Type	Ref.	Start	End	Loc.		1.00	0,65	1.00	1.15	,
	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-09-04	Тор			5			00-00-00
4	FC3 Floor Material	Unf. Lin. (lb/ft)	Ľ	00-00-00	10-09-04	Top		12	6 .	•		u/a
1	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-08-06	Top		6	3	-		n\a
4	FC3 Floor Material	Unf. Lin. (lb/ft)	Ĺ	03-08-06	10-09-04	Top		8	4			n\a
3		Conc. Pt. (lbs)	Ĩ.	03-08-06	03-08-06	Top	·	1,076	687	Service of the servic	والمالية	n\a
4	B4(I1480)	Conc. Pt. (lbs)	7	06-03-06	06-03-06	Top		50	25	CHOF	ESSION	n/a
5	STAIR	Cotto: L.T. (ins)	र्मेक्ट	20 00 00	44 50 50					S. Tarana	market 1	6 N

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6,489 ft-lbs	11,610 ft-lbs	55.9%	1	03-08-06
• • • • • • • • • • • • • • • • • • • •	1.861 lbs	5.785 lbs	32,2%	1	00-11-14
End Shear	L/425 (0,291")	n\a	56.4%	4	04-11-14
Total Load Deflection	L/700 (0.177")	n\a	51,4%	5	04-11-14
Live Load Deflection Max Defl.	0.291"	n\a	n/a	4	04-11-14
Span / Depth	13.1				•

Dooring	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	2-3/8" × 1-3/4"	1,904 lbs	107.2% **	37.6%	Unspecified
B2	Wall/Plate	4-3/8" × 1-3/4"		36.0%	12.6%	Unspecified

Bearing B1 cannot support a load of 1,904 lbs.

LO HAILS.

Notes Design meets Code minimum (L/240) Total load deflection criteria, MALS Design meets Code minimum (L/360) Live load deflection criteria. TO OBC 2012 Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

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

DWO NO . PAM 2 STRUCTURAL COMPONENT ONLY

T. Bary



PASSED

October 27, 2018 11:39:24

1ST FLOOR FRAMING\Flush Beams\B4(I1480) Dry | 1 span | No cant.

BC CALC® Member Report

Bulld 6476

Job name:

Address: City, Province, Postal Code: ST ... NES

Customer: Code reports:

CCMC 12472-R

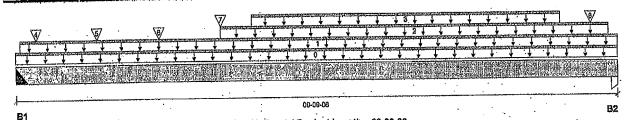
File name:

TH4 SUNKEN.mmdl

1ST FLOOR FRAMING\Flush Beams\B4(i1480) Description:

Specifier: Designer:

Company:



Total Horizontal Product Length = 09-09-06

Reaction Summary (Down / Uplift) (lbs) Wind Dead Snow Bearing B1, 2" 696 / 0 657 / 0 762 / 0 B2, 1-3/4"

ام ا	nd Cummany						Live	Dead	Snow	Wind	Tributary
LQ:	ad Summary Description	Load Type	Ref.	Start	End-	Loc.	1.00	0.65	1.00	1.15	
Lay	Self-Weight	Unf. Lin. (lb/ft)		00-00-00	09-09-06	Top .	,	5			00-00-00
4	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-14	09-09-06	Тор	6	3			n\a
2	WALL	Unf. Lin. (lb/ft)	L.	03-Q4-01	09-07-10	Top		60			u/a
3	Smoothed Load	Unf. Lin. (lb/ft)	Ļ	03-10-02	08-10-02	Тор	138	69			n\a
4	J3(i1479)	Conc. Pt. (lbs)	L.	00-04-02	00-04-02	Тор	204	102	•		n\a
5	J3(1460)	Conc. Pt. (lbs)	L	01-04-02	01-04-02	Top	287	144			n∖a
٥	JŚ(1489)	Conc. Pt. (lbs)	Ł	02-04-02	02-04-02	Top	287	144	•		n/a
7	J3(i1488)	Conc. Pt. (lbs)	ī.'	03-04-02	03-04-02	Top	224	112	AND THE PARTY.	The state of	n\a
(J3(11457)	Conc. Pt. (lbs)	Ü	09-04-02	09-04-02	Top	107	53 🖋	p water	E8810N	n\a
8	43(II491) *		Factored		and/	•			Si marin	PINTE	

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5.147 ft-lbs	11,610 ft-lbs	44.3%	1	04-04-02
End Shear	2,151 lbs	5.785 lbs	37.2%	1	00-11-08
Total Load Deflection	L/468 (0.246")	n\a	51.3%:	4	04-10-02
	L/831 (0.139")	n/a	43.3%	5	04-10-02
Live Load Deflection Max Defl.	0.246"	n\a	n\a	4	04-10-02
Span / Depth	12.1				

				Domand/ Resistance	Demand/ Resistance			
Bearing	Supports	Dim. (LxW)	Demand	Support	Member	Material	: 	,,
B1	Hanger	2" x 1-3/4"	2,604 lbs	n\a		HUS1.81/10		
B2	Column	1-3/4" x 1-3/4"	1,965 lbs	98.8%	52.6%	Unspecified		

Cautions

Header for the hanger HUS1.81/10 at B1 is a Single 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

OWEND . TAN 24855-18H STRUCTURAL COMPONENT DNLY

Borrel





PASSED

1ST FLOOR FRAMING\Flush Beams\B4(i1480)

.Dry | 1 span | No cant.

October 27, 2018 11:39:24

BC CALC® Member Report

Bulld 6475 Job name:

Address:

City, Province, Postal Code: ST ... NES

Customer: CCMC 12472-R Code reports:

TH4 SUNKEN.mmdl File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B4(i1480)

Specifier: Designer. Company:

Notes

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

CONFORMS TO OBC 2012. Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9



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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, DWG NO. TAM 24655-18 HVERSA-LAM®, VERSA-RIM PLUS®, STRUCTURAL

COMPONENT ONLY

T-190249(1)



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1ST FLOOR FRAMING\Flush Beams\B5(i1481)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

October 27, 2018 11:39:24

Bulld 6475

Job name: Address:

File name: Description:

TH4 SUNKEN.mmdl 1ST FLOOR FRAMING\Flush Beams\B5(i1481)

Customer:

City, Province, Postal Code: ST ... NES

Specifier: Designer:

CCMC 12472-R Code reports:

Company:

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		The state of the s	ANY CONTROL MARKET L'ANY CONTROL L'ANY CONTR
			福建设设置。
E AND BACKETON OF THE TANK OF THE PROPERTY OF	III i i i i i i i i i i i i i i i i i i		
	07-02-10	14,	D0
- D4			B2

Total Horizontal Product Length = 07-02-10

Reaction Summary (Down / Uplift) (lbs) Live Bearing 206/0 368/0 B1, 3-1/2" 450 / 0 B2, 4-3/8" 258/0

Load Summary Tag Description Load Type Ref. Start End Loc. 1.00 0.65 1.00 1.15	-
Tag Description Load Type Ive. 5512 O Self-Weight Unf. Lin. (lb/ft) L 00-00-00 07-02-10 Top 5 00-	00-00
1 FC3 Floor Material Unf. Lin. (lb/ft) L 00-01-12 02-07-14 Top 12 6	n\a
2 FC3 Floor Material Unf. Lin. (lb/ft) L 02-07-14 07-02-10 Top 20 10	n\a
3 B6(1471) Conc. Pt. (lbs) L 02-08-12 02-08-12 Top 506 261	n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,920 ft-lbs	11,610 ft-lbs	16.5%	1	02-08-12
End Shear	780 lbs	5.785 lbs	13.5%	1	01-01-00
	L/999 (0.036")	n\a	n\a	4	03-04-04
Total Load Deflection	L/999 (0.023")	n\a	n\a	5	03-04-04
Live Load Deflection Max Defl.	0.036"	n\a	n\a	4	03-04-04
Span / Denth	8.4	•			

Paorino	Cunnorfe	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Supports Column	3-1/2" x 1-3/4"	810 lbs	20.4%	10.8%	Unspecified
B2	Wall/Plate	4-3/8" x 1-3/4"	575 lbs	17.6%	6.2%	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.

CONFORMS TO OBC 2012

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA Q86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code; Part 9

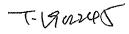


Disclosure

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BC CALCO, BC FRAMERO, AJSTM ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAMB, VERSA-RIM PLUS®,

048 NO . TAM 2456 18H STRUCTURAL COMPONENT ONLY







PASSED

1ST FLOOR FRAMING\Flush Beams\B6(i1471)

Dry | 1 span | No cant.

October 27, 2018 11:39:24

BC CALC® Member Report

Build 6475 Job name:

Customer:

Code reports:

Address:

City, Province, Postal Code: ST ... NES

File name:

TH4 SUNKEN.mmdl

Description:

1ST FLOOR FRAMING\Flush Beams\B6(i1471)

Specifier: Designer:

CCMC 12472-R

Company:

<u>√</u>	V July 1997	William Commence of the Commen
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55 July 1997 1997 1997 1997 1997 1997 1997 199		
是一种,所以他们是另一种的。 第一种,他们就是一种,他们就是一种,他们就是一种的。	第三届张文皇前第四条英国第6775日 中,第二章1075 中,1925年	Participant, 1917-2-2-2
	. 03-02-04	B2
В1	m and the important Department Langeth in 02-02-04	

Total Horizontal Product Length = 03-02-04

8now

Reaction Summary (Down / Uplift) (lbs) Live

261/0 B1, 2" 507/0 253 / 0 490/0 B2, 2"

Load Sum	mary ·		a	242	Mar al	1	Live 1.00	Dead 0.65	\$now 1.00	Wind 1.15	Tributary
Tag Descrip 0 Self-We 1 STAIR 2 J4(1144 3 J4(158 4 J4(1904	lght 9) 9)	Load Type Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs) Conc. Pt. (lbs)	Ref. L L L L	\$tart 00-00-00 00-00-00 00-05-00 01-05-00 02-05-00	03-02-04 03-02-04 03-02-04 00-05-00 01-05-00 02-05-00	Top Top Top Top Top	240 66 83 83	5 120 33 42 41			00-00-00 n\a n\a n\a n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Çase	Location
Pos. Moment	772 ft-lbs	11,610 ft-lbs	6,6%	1	01-05-15
	515 lbs	5.785 lbs	8,9%	1	02-02-12
End Shear	L/999 (0.003")	n\a	n\a	4	01-07-02
Total Load Deflection Live Load Deflection	L/999 (0.002")	n\a	n\a	5	01-07-02
Max Defl.	0,003"	n\a	n\a	4	01-07-02
Span / Depth	3.8				

Dooring	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
Bi	Hanger	2" x 1-3/4"	1,086 lbs	n\a	25.4%	HUS1.81/10
B2	Hanger	2" x 1-3/4"	1,051 lbs	n\a	24.6%	HU\$1.81/10

Cautions

Header for the hanger HUS1.81/10 at B1 is a Single 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for

Header for the hanger HUS1.81/10 at 62 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

BC CALCO, BC FRAMERO, AJSTM, ALLJOISTO, BC RIM BOARDTM, BCIO, BOISE GLULAMYM, BC FloorValue®, BWEND, THE 2457-16HVERSA-LAMB, VERSA-RIM PLUSE,

STRUCTURAL COMPONENT ONLY

T. Garel

before installation.

PROFESSION A

Disclosure

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





PASSED

1ST FLOOR FRAMING/Flush Beams/B7(i1483)

Dry | 1 span | No cant.

October 27, 2018 11:39:24

BC CALC® Member Report Bulld 6475

Job name:

Customer:

Address:

Code reports:

City, Province, Postal Code: ST ... NES

CCMC 12472-R

TH4 SUNKEN.mmdl File name:

1ST FLOOR FRAMING\Flush Beams\B7(i1483) Description:

Specifier: Designer:

Company:

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1. 1.		10-09-04			R2

81

Total Horizontal Product Length = 10-09-04

Reaction	Summary (Down / Up	lift) (lbs)		•
Bearing	Live	Dead	Snow	Wind
Bearing B1, 2-3/8"	106/0	79/0		

B2, 4-3/8"	109 / 0	٠	81/0

Load Summary						Ļive	Dead -	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	. 1.00	1.15	
0 Self-Weight	Unf, Lin. (lb/ft)	<u>L</u> ,	00-00-00	10-09-04	Top		5			00-00-00
1 FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-09-04	Top	20	10			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos, Moment	648 ft-lbs	11,610 ft-lbs	5.6%	1	05-03-10
End Shear	209 lbs	5,785 lbs	3,6%	1 "	00-11-14
Total Load Deflection	L/999 (0.036")	· n/a	.n\a	4	05-03-10
Live Load Deflection	L/999 (0.021")	n\a	n\a	5	05-03-10
Max Deff.	0.036"	n\a	n\a	4	05-03-10
Span / Depth	13.1		•		

				Ďemand <i>i</i> Resistance	Demand/ Resistance	
Bearing	Supports	Dim. (LxW)	Demand	Support	Member :	Material
B1	Wall/Plate	2-3/8" x 1-3/4"	257 lbs	14.5%	5.1%	Unspecified
B2	Wall/Plate	4-3/8" x 1-3/4"	265 lbs	8.1%	2.8%	Unspecified



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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

CONFORMS TO OBG 2012

Importance Factor: Normal Part code: Part 9

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

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

DWG NO. TAM 2458-19H STRUCTURAL COMPONENT ONLY



PASSED

October 27, 2018 11:39:24

1ST FLOOR FRAMING\Flush Beams\B8L(i983)

BC CALC® Member Report

Bulld 6475 Job name:

Address:

City, Province, Postal Code: ST ... NES

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

TH4 SUNKEN.mmdl

Description:

1ST FLOOR FRAMING\Flush Beams\B8L(1983)

Specifier: -Designer: Company:

03-04-00 **B2**

Total Horizontal Product Length = 03-04-00

Snow

Reaction Summary (Down / Uplift) (lbs)
Bearing Live Dead Dead Bearing

134 / 0 252/0 B1, 3-1/2 129 / 0 242/0 82, 3-1/2"

Los	ad Summary							Live	Dead	Snow	Wind	Tributary
Tag	Description		Load Type	Ref.	Start	End.	Loc.	1,00	0.66	1.00	1.15	*****
U N	Self-Weight	*************	Unf. Lin. (lb/ft)	L	00-00-00	03-04-00	Тор		5	•		00-00-00
4	J3(1975)		Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	108	54 ·			n\a
1.	1 4		Conc. Pt. (lbs)	ī.	01-02-12	01-02-12	Top	148	74			n\a
- 2	J3(I971)				02-02-12	02-02-12	Top	156	78			n\a
3	J3(1972)		Conc. Pt. (lbs)	<u>. </u>				82	41			n\a
4	J3(1973)		Conc. Pt. (lbs)	Ļ.	03-02-12	03-02-12	Top :	04	-7 i			11164

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	312 ft-lbs	11,610 ft-lbs	2.7%	1	01-02-12
End Shear	344 lbs	5.785 lbs	5.9%	1	02-03-00
Total Load Deflection	L/999 (0.001")	n\a	n\a	4	01-08-00
Live Load Deflection	L/999 (0.001")	n\a	n\a	5	01-08-00
Max Defl.	0.001"	n\a .	n\a	4	01-08-00
Span / Depth	3.6				

				Demand/ Resistance	Demand/ Resistance	
Bearing	Supports	Dim, (LxW)	Demand	Support	Member	Material
B1	Column	3-1/2" x 1-3/4"	545 lbs	13.7%	7.3%	Unspecified
B2	Column	3-1/2" x 1-3/4"	625 lbs	.13.2%	7.0%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO DBG 2012

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Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI® BOISE GLULAM™, BC FloorValue®, YLVERSA-LAMB, VERSA-RIM PLUSB.

BYRNU. FAR 24 STRUGTURAL COMPONENT DNLY

To (garrel





PASSED

2ND FLOOR FRAMING\Flush Beams\B10(i1598)

BC CALC® Member Report

Dry | 1 span | No cant.

October 27, 2018 11:39:24

Build 6475

Job name:

Address: City, Province, Postal Code: ST ... NES

File name: Description: TH4 SUNKEN.mmdl

Wind

2ND FLOOR FRAMING/Flush Beams/B10(i1598)

Specifier: Designer:

Customer: Code reports:

CCMC 12472-R

Company:

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			t o t t	1 1 1	1 1	}	<u> </u>
2 1 1 1 1 2 2 7 7 7 1 1 1 1 1 1 1 1 1 1	KM 100 (Sales) Company of the Sales of the S	-				٠,	. 4
			10-07-08			7	`R9

Total Horizontal Product Length = 10-07-08 Snow

Reaction Summary (Down / Uplift) (lbs)

Dead 2.208 / 0 1,157/0 B1, 3-1/2 1,308/0 B2, 2-5/8" 2,514/0

l ne	ad Summary	•					Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.15	
0,	Self-Weight .	Unf. Lin. (lb/ft)	L	00-00-00	10-07-08	Top		10	,	,,	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	Ľ	00-07-04	06-07-04	Top	466	234			n\a
'n	#	Conc. Pt. (lbs)	L.	. 07-01-04	07-01-04	Top	445	222			n\a
3	•	Conc. Pt. (lbs)	Ŀ	08-00-00	08-00-00	Top	434	217			n\a
λ.	J1((1506)	Conc. Pt. (lbs)	L.	08-07-04	08-07-04	Top	236	118			n\a
5	J2(i1500)	Conc. Pt. (lbs)	Ĺ	09-04-00	09-04-00	Top	271	135			n\a
6	92(11 9 00)	Conc. Pt. (lbs)	Ē			Тор	544	272			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	13,261 ft-lbs	23,220 ft-lbs	57.1%	1	05-01-04
End Shear	4.746 lbs	11,571 lbs	41.0%	1	01-01-00
Total Load Deflection	L/349 (0.352")	n\a	68,8%	4	05-Q4-04
Live Load Deflection	L/530 (0.232")	n\a	67.9%	5	05-04-04
Max Defl.	0,352"	n\a	n\a	4	05-04-04
Snan / Depth	12.9	•			

Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
4,769 lbs	90.9%	31.8%	Unspecified
5,405 lbs	90.6%	48.2%	Unspecified

Notes

<u>B1</u>

B2

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

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

2-5/8" x 3-1/2"

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

Calculations assume member is fully braced.

Bearing Supports Dlm. (LxW)

Wall/Plate

Column

Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO UBC 2012

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

Design based on Dry Service Condition.

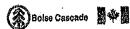
Importance Factor: Normal Part code: Part 9

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

DWO NO . TAM 246018H STRUCTURAL COMPONENT ONLY

PHOFEBSION

T. Garely



PASSED

October 27, 2018 11:39:24

2ND FLOOR FRAMING\Flush Beams\B10(i1598) Dry | 1 span | No cant.

BC CALC® Member Report

Build 6475

Job name: Address:

City, Province, Postal Code: ST ... NES

Code reports:

Customer:

CCMC 12472-R

File name:

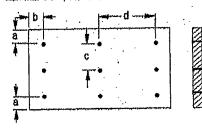
TH4 SUNKEN.mmdl

2ND FLOOR FRAMING\Flush Beams\B10(i1598) Description:

Specifier:

Designer: Company:

Connection Diagram: Full Length of Member



a minimum ≈ 2" b minimum = 3" o = 2-3/4" //

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 Connectors are: . 1

3%" ARDOX SPIRAL



Disclosure

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engineered wood products must be in
accordance with current installation
Guide and applicable building codes. To
obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

DWG NO. TAM 2460-18 HVERSA-LAM®, VERSA-RIM PLUS®, STRUCTURAL COMPONENT ONLY

T-1902496



PASSED

October 27, 2018 11:39:24

2ND FLOOR FRAMING\Flush Beams\B11(i1616)

BC CALC® Member Report

Bulld 6475

Job name: Address:

Customer:

Code reports:

City, Province, Postal Code: ST ... NES

CCMC 12472-R

Dry | 1 span | No cant.

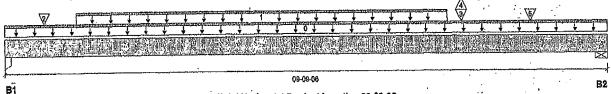
TH4 SUNKEN.mmdl

File name:

Description: 2ND FLOOR FRAMING\Flush Beams\B11(i1616)

Specifier: Designer:

Company:



Total Horizontal Product Length = 09-09-06

Reaction Summary (Down / Uplift) (lbs) Snow Bearing B1, 2-5/8 Live 1,229/0 2,368 / 1 1,052 / 0 B2, 4-3/8" 2,012/2

	l ns	d Summary						Live	Dead	Snow	Wind	Tributary
		Description	Load Type	Ref.	Start	Ënd	Loc.	1.00	0.65	1.00	1.15	
•	<u> </u>	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-09-06	Top		10"			00-00-00
	1	Smoothed Load	Unf. Lin. (lb/ft)	٠,	01-02-02	07-02-02	Top	484	242			n\a
	2	-	Conc. Pt. (lbs)	L	00-07-15	00-07-15	Top	575	287			n\a
	2		Conc. Pt. (lbs)	L	07-04-15	07-04-15	Top	444	220			n\a
	A	•	Cono. Pt. (lbs)	L	07-04-15	07-04-15	Top	-3 ·				n\a
	4	•	Conc. Pt. (lbs)	Ē.	08-06-07	08-06-07	Top	457	228	•		n\a
	0	H	Could' I to final	_	20 00							

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	11.729 ft-lbs	23,220 ft-lbs	50.6%	1	04-08-02
End Shear	4,535 lbs	11,571 lbs	39.2%	1	01-00-02
Total Load Deflection	L/437 (0.256")	n\a	54.9%	. 6	04-09-10
Live Load Deflection	L/664 (0.168")	n\a	54.2%	8	04-09-10
Max Deff.	0.256"	n\a	n\a	6	04-09-10
Snan / Denth	11.8				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demend/ Resistance Member	Material
B1	Column .	2-5/8" x 3-1/2"	5,088 lbs	85.3%	45.4%	Unspecified
B2	Wall/Plate	4-3/8" x 3-1/2"	4,333 lbs	66.2%	23.2%	Unspecified

Notes

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

Resistance Factor phi has been approved to an prosental design, as per NBCC 2015 and C BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and C CUNFORMS

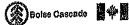
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

> UNE NO , FAM 2461 - 1 STRUCTURAL COMPONENT ONLY

> > T-1SONO





Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLOOR FRAMING\Flush Beams\B11(I1616)

PASSED

October 27, 2018 11:39:24

BC CALC® Member Report

Bulld 6475

Job name:

Address:

City, Province, Postal Code: ST ... NES

Customer:

Code reports:

Dry | 1 span | No cant.

TH4 SUNKEN, mmdl File name:

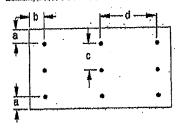
Description: 2ND FLOOR FRAMING\Flush Beams\B11(i1616)

Specifier: Designer:

Company:

Connection Diagram: Full Length of Member

CCMC 12472-R



a minimum = 2" b minimum = 3" o = 2-3/4" d = 200' 6

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

Connectors are:

Nalls

ARDOX SPIKAL



Disclosure

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

DWS ND. PAM 2461-18 STRUCTURAL COMPONENT ONLY

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

T-1902506)





PASSED

2ND FLOOR FRAMING\Flush Beams\B12(i1525)

Dry | 1 span | No cant,

October 27, 2018 11:39:24

Bulld 6475

Job name:

Address: City, Province, Postal Code: ST ... NES

BC CALC® Member Report

File name: Description:

Specifier.

Designer:

Customer: Code reports:

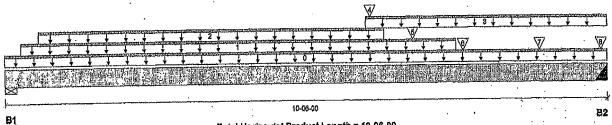
CCMC 12472-R

Company:

TH4 SUNKEN.mmdl

Wind

2ND FLOOR FRAMING\Flush Beams\B12(i1525)



Total Horizontal Product Length = 10-06-00 Snow

Reaction Summary (Down / Uplift) (lbs)
Bearing Live Dead

1,585/0 1,138/0 B1, 3-1/2 1,280 / 0 2,079 / 0 B2, 2"

. سا	ad Orresponder				,			Live	Dead	Snow	Wind	Tributary
	ad Summary Description	Load Type	Ref.	Start	End	Loc.		1,00	0.65	1.00	1.15	
Tag	Self-Weight	Unf. Lin. (lb/ft)		00-00-00	10-06-00	Top	-121-11		10		,	00-00-00
4	WALL.	Unf. Lin. (lb/ft)	Ĺ.	00-03-08	07-10-08	Top			60			n\a
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-07-04	06-07-04	Top		230	114			n\a
2	FC4 Floor Material	Unf. Lin. (lb/ft)	Ĺ	06-03-08	10-06-00	qoT		30	15			h\a
3		Conc. Pt. (lbs)	Ī.	06-04-06	06-04-06	Top	•	1,221	642		•	n\a
4	B14(I1499)	Conc. Pt. (lbs)	ĭ	07-01-04	07-01-04			214	107	.:.	•	n\a
5	J2(11579)	Conc. Pt. (lbs)	ī	08-00-00	08-00-00	•		252	126	لله ٠٠٠٠	٠.	n\a
6	J2(11510)	Conc. Pt. (lbs)	1	09-04-00	09-04-00			271	435aC	3FE 58./	A . West	n\a
7	J2(I1500)		اب. ا	10-04-12	10-04-12	•		199	490	NAME AND POST OF THE PARTY OF T	MAN AND	, n\a
Ŕ	.12/11606)	Conc. Pt. (lbs)	L.,	10*94*12	10-04-12	100		, V Y #	-SIN 100		A .	47

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location E. NOK
Pos. Moment	13,655 ft-lbs	23,220 ft-lbs	58.8%	1	
End Shear	4,222 lbs	11,571 lbs	36.5%	1	08-08/ (Indicates de procesasses)
Total Load Deflection	L/365 (0.334")	n\a	65.7%	- 4	08-05-12
	L/605 (0.202")	n\a	59.5%	5	05-05-12
Live Load Deflection			n\a	Ä	05-05-12
Max Defl.	0.334"	n\a	i i yea	7	00-00-12
Snan / Depth	12.8				•

Beari	ng Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	3-1/2" x 3-1/2"	3,801 lbs	72.6%	25.4%	Unspecified
B2	Hanger	2" x 3-1/2"	4,718 lbs	n\a	55.2%	HGUS410

Header for the hanger HGUS410 at B2 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

> UNBNU, FAM 2462519 H STRUCTURAL COMPONENT ONLY

T-19025





PASSED

2ND FLOOR FRAMING\Flush Beams\B12(i1525)

Dry | 1 span | No cant.

October 27, 2018 11:39:24

BC CALC® Member Report Build 6476

Job name:

Address: City, Province, Postal Code: ST ... NES

Customer: Code reports: CCMC 12472-R

TH4 SUNKEN.mmdl File name:

Description: 2ND FLOOR FRAMING\Flush Beams\B12(I1525)

Specifier: Designer:

Company:

Notes

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO UBC 2012

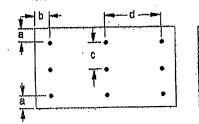
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2016 and CSA Q86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

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

Connection Diagram: Full Length of Member



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

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

Connectors are: Nalls ARDOX SPIRAL



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

BC CALC®, BC FRAMER® , AJS™, ^ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue® , VERSA-LAM®, VERSA-RIM PLUS® , NO TAM 2462-18H STRUCTURAL

COMPONENT ONLY

T. Bouxilo



BC CALC® Member Report



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLOOR FRAMING\Flush Beams\B13(I1539)

Dry | 1 span | No cant.

October 27, 2018 11;39:24

Bulld 6475 Job name:

Address:

City, Province, Postal Code: ST ... NES

File name:

TH4 SUNKEN.mmdl

2ND FLOOR FRAMING\Flush Beams\B13(I1539)

Description: Specifier:

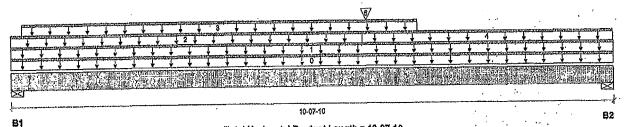
Designer:

Customer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 10-07-10

Reaction Summary (Down / Uplift) (lbs)

469/0 573/0 B1, 2-3/8 532/0 B2, 2-3/4" 638 / 0

1 mm d Cremmon me :			•			Live	beed	Snow	Wind	. Tributary
Load Summary Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-07-10	Top		10			00-00-00
1 FC4 Floor Material	Unf. Lin. (lb/ft)	Ľ.	00-00-00	10-07-10	Top	30	15			n\a
2 FC4 Floor Material	Unf. Lin. (lb/ft)	Ě	00-00-00	06-02-06	Top	6	3			n\a
	Unf. Lin. (lb/ft)	1	00-02-06	07-01-15	Top		60	•		n\a
3 WALL	Unf. Lin. (lb/ft)	i.	06-02-06	10-07-08	Top	24	12		: `	n\a
4 FC4 Floor Material		اس ا	06-03-04	06-03-04	Top	642	352			n/a
5 B14(I1499)	Conc. Pt. (lbs)	L	00-00 - 04	QQ~QQ~Q~	. op	0.17				

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5,572 ft-lbs	23,220 ft-lbs	24.0%	1	06-03-04
End Shear	1,493 lbs	11,571 lbs	12.9%	1	09-07-06
Total Load Deflection	L/907 (0.137")	n\a	26.5%	4 .	05-04-10
Live Load Deflection	L/999 (0.071")	n\a	n\a'	5	05-06-09
Max Defl.	0.137"	n\a	'n\a	4	05-04-10
Span / Depth	13.1				

Rearing	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Materiai
B1	Wall/Plate	2-3/8" x 3-1/2"	1,419 lbs	40.0%	14.0%	Unspecified
82	Wall/Plate	2-3/4" x 3-1/2"	1,622 lbs	39,4%	13.8%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86, CONFORMS TO OBG 2012

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

Design based on Dry Service Condition.

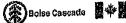
Importance Factor: Normal Part code: Part 9

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

> DWG NU , TAM2463-18H STRUCTURAL

COMPONENT ONLY

T. Gartz





PASSED

2ND FLOOR FRAMING\Flush Beams\B13(11539)

Dry | 1 span | No cant.

October 27, 2018 11:39:24

BC CALC® Member Report

Bulld 6476

Job name:

Address: City, Province, Postal Code: ST ... NES

Customer: Code reports:

CCMC 12472-R

File name:

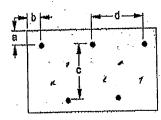
TH4 SUNKEN.mmd

Description: 2ND FLOOR FRAMING\Flush Beams\B13(i1539)

Specifier: Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 🗗 b minimum = 3" o=4-1/2" d = 686

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

Connectors are: .

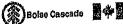


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BC CALCO, BC FRAMER® , AJS™. ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, BYBNO, FAM 246 VERSA-LAMB, VERSA-RIM PLUS®, STRUCTURAL COMPONENT ONLY

T- GOONTUCY





PASSED

2ND FLOOR FRAMING\Flush Beams\B14(i1499)

Dry | 1 span | No cant.

October 27, 2018 11:39:24

Build 6475

Job name:

Address:

Customer:

City, Province, Postal Code: ST ... NES

BC CALC® Member Report

CCMC 12472-R

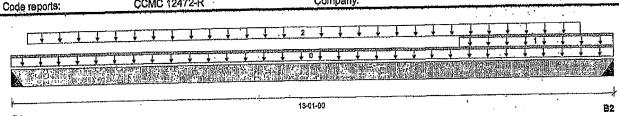
File name:

TH4 SUNKEN, mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B14(11499)

Specifier: Designer:

Company:



B1

B2, 2"

· Total Horizontal Product Length = 13-01-00

Reaction Sur	nmary (Down / Up	lift) (lbs) Dead	Snow	Win
B1, 2"	637 / 0	350 / 0		
B2. 2"	1,226 / 0	645/0		

	1. 100		•		•		Live	Dead	Snow	Wind	Tributary
	ad Summary	Load Type	Ref.	Start	End	Loc.	1,00	0.65	1.00	1.15	***************************************
Tag 0	Description Self-Weight STAIR	Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Trapezoldal (lb/ft)	L L	00-00-00 09-09-00 00-04-08	13-01-00 13-01-00	Top Top Top	240 84	6 120 42	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		00-00-00 n\a n\a
2	Smoothed Load	Trapozoidai (ismy	-	***	12-04-08	•	94 .	47	•		

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
With the last building the Adult of the State of the State of Stat	5,488 ft-lbs	11,610 ft-lbs	47.3%	4	07-08-08
Pos. Moment	2,150 lbs	5,785 lbs	37.2%	1	12-01-08
End Shear		n\a	72.9%	4	06-08-08
Total Load Deflection Live Load Deflection	L/329 (0.469") L/607 (0.305")	n\a	71.1%	5	06-08-08
Max Defl.	0.469"	n\a	.n\a	. 4	06-08-08
Span / Depth	16.3				

Dagwing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	1,393 lbs	n\a	32,6%	HUS1.81/10
B2	Hanger	2" x 1-3/4"	2,645 lbs	n\a	61.9%	HUS1.81/10

Header for the hanger HUS1.81/10 at B1 Is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF. Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity. Header for the hanger HUS1.81/10 at B2 is a Double 1-3/4" x 9-1/2" VERSA-LAM® 1.7 2400 DF.

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 Q86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86:

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

MORESS.ON P **Disclosure**

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

BWB NO . TAN 2464-18H STRUCTURAL COMPONENT ONLY

CONFORMS TO OBC 2012



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLOOR FRAMING\Flush Beams\B9(i1601)

PASSED

October 27, 2018 11:39:24

BC CALC® Member Report

Build 6475

Job name:

Customer:

Code reports:

Address: City, Province, Postal Code: ST ... NES

CCMC 12472-R

Dry | 1 span | No cant.

TH4 SUNKEN, mmdi File name:

2ND FLOOR FRAMING\Flush Beams\B9(I1601) Description:

Specifier: Designer:

Company:

04-01-08 **B2**

Total Horizontal Product Length = 04-01-08

Reaction Summary (Down / Uplift) (lbs)

1,149/0 711/0

B1, 5-1/2" 1,099 / 0 691/0 B2, 3-1/2"

	I Accessors with a						FIAB	มูยสน	SHOW	AAIIIG	LICATION
	oad Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1.15	
ابد	ag Description Self-Weight	Unf, Lin. (lb/ft)	1.	00-00-00	04-01-08	Top	7.11.	10			00-00-00
,		Unf. Lin. (lb/ft)	ī	00-02-12	04-01-08	Top	13	7	•		n\a
	FC4 Floor Material				00-8-00		124	62			n\a
- 2	3 J4(i1706)	Conc. Pt. (lbs)	<u> </u>	00-89-00			•	1,270			n\a
:	B12(11525)	Conc. Pt. (lbs)	L	02-02-04	02-02-04	Top	2,063	1,210			11161

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	4.198 ft-lbs	23,220 ft-lbs	18.1%	1	02-02-04
End Shear	2,457 lbs	11,571 lbs	21,2%	1	03-00-08
	L/999 (0.011")	n\a	n\a	4	02-01-14
Total Load Deflection	L/999 (0,007")	n\a	n\a	5	02-01-14
Live Load Deflection Max Defl.	0.011"	n\a	n\a	4	02-01-14
Span / Depth	4.4				•

Daarin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material	
B1	Wall/Plate	5-1/2" x 3-1/2"	2,612 lbs	31.8%	11.1%	Unspecified	-
B2	Column	3-1/2" x 3-1/2"	2,512 lbs	31.6%	16.8%	Unspecified	•

Notes

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

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

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86. CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9.

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



STRUCTURAL COMPONENT ONLY



Mind

Tributary

Disclosure

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

T. Bassa



PASSED

B2

2ND FLOOR FRAMING\Flush Beams\B15(i1442)

Dry | 1 span | No cant.

October 25, 2018 09:02:32

BC CALC® Member Report Bulld 6475

Job name:

Customer:

Code reports:

Address: City, Province, Postal Code: ST ... NES

CCMC 12472-R

TH4 EL B.mmdi File name:

2ND FLOOR FRAMING\Flush Beams\B15(I1442) Description:

Wind

Specifier:

Designer: Company:

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B1

08-10-00 Total Horizontal Product Length = 06-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	L	ive	Dead	Snow
B1, 3-1/2"	2	57/0	265 / 0	490 / 0
DO 5-1/2"		70/0	279 / 0	515/0

Land Communication						Live	Dead	Snow	Wind	Tributary
Load Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Tag Description O Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-10-00	Тор	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	10			00-00-00
1 · ROOF	Unf. Lin. (lb/ft)	L.	00-00-00	06-10-00	Top	77	7Q	147		· n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1,913 ft-lbs	20,361 ft-lbs	9.4%	13	03-04-00
End Shear	893 lbs	11,571 lbs	7.7%	13	Q1-Q1-QQ
Total Load Deflection	L/999 (0.02")	n\a	n\a	35	03-04-00
Live Load Deflection	L/999 (0.015")	n\a	n\a	51	03-04-00
Max Defl.	0.02"	n\a	n\a	35	03-04-00
Span / Depth	7.8	•			

Bearing Support	S Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Column	3-1/2" × 3-1/2"	1,323 lbs	13.3%	8.9%	Unspecified
B2 Wall/Plate	5-1/2" × 3-1/2"	1,390 lbs	13.5%	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 unbraced length of Top: 06-04-08, Bottom: 06-04-08.

Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO OBC 2012

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

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

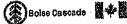
verification. .

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9

Member has no side loads.

DWG NO . TAM 2466-1 STRUCTURAL COMPONENT ONLY

T. 190255





PASSED

October 25, 2018 09:02:32

2ND FLOOR FRAMING/Flush Beams/B15(i1442)

BC CALC® Member Report

Build 6475

Job name: Address:

City, Province, Postal Code: ST ... NES

Customer:

Cade reports:

CCMC 12472-R

Dry | 1 span | No cant.

File name:

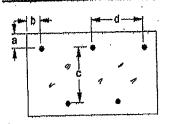
TH4 EL B.mmdl

Description: 2ND FLOOR FRAMING\Flush Beams\B15(i1442)

Specifier: Designer:

Company:

Connection Diagram: Full Length of Member



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

Member has no side loads.

Connectors are: 4 7 1 Nails

ARDUX SPIKAL



Disclosure

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

DWG NO. TAM 2466-19 BOISE GLULAMM, BC FloorValue®, CTRUCTURE, CTRUCTURE, STRUCTURAL COMPONENT ONLY

T- (902X56)



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







			В	are		1/2" Gypsum Ceiling				
Depth	Series		On Centi	re Spacing		On Centre Spacing				
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"	
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"	
9-1/2"	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"	
	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"	
11 7/08	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-1"	
11-7/8"	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"	
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"	
	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"	
	NI-40x	21'-5"	19'-10"	18'-11"	17'-5"	22'-1"	20'-6"	19'-6"	17'-5"	
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"	
14"	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"	
	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"	
101	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"	
16"	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"	
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"	

			Mid-Spar	n Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling				
Depth	Series		On Centr	e Spacing		On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1"	13'-11"
9-1/2"	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'
	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'
44 7/01	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
11-7/8"	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
	NI-80	23'-7"	21'-10"	20'-5"	18'-11"	24'-1"	21'-10"	201-5"	18'-11'
	NI-90x	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7" ·	21'-3"	19'-7"
	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"
14"	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"
	NI-60	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
1611	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
16"	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'

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

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

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

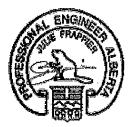
^{4.} Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

^{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.



Live Load = 40 psf, Dead Load = 15 psf Simple Spans, L/480 Deflection Limit 5/8" OSB G&N Sheathing







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

			Mid-Spar	n Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling				
Depth	Series	On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-8"	15'-3"	14'-5"	N/A	16'-8"	15'-3"	14'-5"	N/A
	N1-40x	17'-11"	16'-11"	16'-1"	N/A	18'-5"	17'-1"	16'-1"	N/A
9-1/2"	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	N/A
,-	NI-70	19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	N/A
	NI-80	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"	17'-8"	N/A
	NI-20	19'-6"	18'-1"	17'-3"	N/A	19'-11"	18'-3"	17'-3"	N/A
	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
11-7/8"	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
	N1-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-11"	20'-11"	N/A	24'-3"	22'-7"	21'-7"	N/A
	NI-60	24'-0"	22'-3"	21'-3"	N/A	24'-8"	22'-11"	21'-11"	N/A
14"	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
	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
16"	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

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

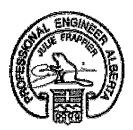
^{4.} Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

^{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.



Live Load = 40 psf, Dead Load = 15 psf Simple Spans, L/480 Deflection Limit 3/4" OSB G&N Sheathing







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

			Mid-Spar	ı Blocking		Mid-S	pan Blocking an	d 1/2" Gypsum	Ceiling
Depth	Series	On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
9-1/2"	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
,	N1-70	20'-0"	18'-7"	17 '- 9"	16'-7"	20'-5"	18'-11"	17'-10"	16'-7"
	N1-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10
	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"
	NJ-60	22'-1"	20'-7"	19'-7"	18 ⁷ -4"	22′-8"	20'-10"	19'-8"	18'-4"
11-7/8"	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"
	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
14"	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"
	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"
16"	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"

^{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 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.

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

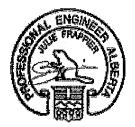
^{4.} Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

^{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-1274C.



Live Load = 40 psf, Dead Load = 30 psf Simple Spans, L/480 Deflection Limit 5/8" OSB G&N Sheathing







			Ba	are			1/2" Gyps	um Ceiling		
Depth	Series		On Centr	e Spacing		On Centre Spacing				
•		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	N1-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A	
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A	
9-1/2"	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A	
	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A	
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A	
	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A	
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A	
4.4.77(01)	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A	
11-7/8"	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A	
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11"	N/A	
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A	
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A	
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A	
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A	
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A	
	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A	
	Ni-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A	
4 54	NI-70	23'-6"	21 '- 9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A	
16"	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A	
•	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A	

		_	Mid-Spar	n Blocking	Mid-Span Blocking and 1/2" Gypsum Ceiling				
Depth	Series	On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	17'-9"	16'-1"	15'-1"	N/A	17'-9"	16'-1"	15'-1"	N/A
9-1/2"	NI-60	18'-1"	16'-4"	15'-4"	N/A	18'-1"	16'-4"	15'-4"	N/A
•	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"	16'-9"	N/A
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"	17'-1"	N/A
	NI-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	16'-0"	N/A
	NI-40x	21'-0"	19'-3"	17'-9"	N/A	21'-3"	19'-3"	17'-9"	N/A
=	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"	18'-5"	N/A
11-7/8"	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-4"	20'-0"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-5"	N/A
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-5"	19'-6"	N/A	24'-1"	21'-5"	19'-6"	N/A
	NI-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"	21'-0"	N/A
14"	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-9"	N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"	23'-4"	N/A
	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
16"	N1-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

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

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

^{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.

^{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.

NORDIC

Construction Detail

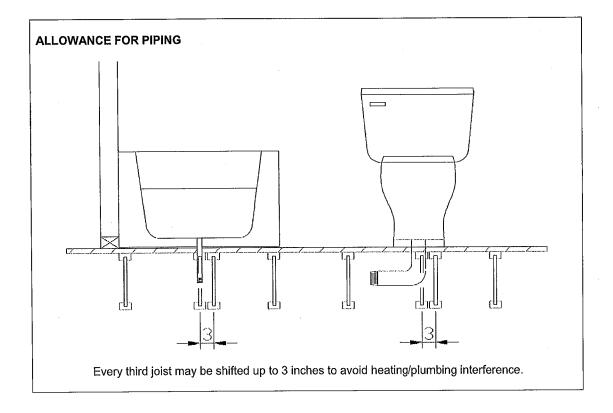
Limit States Design

Allowance for Piping (Installation Notes)

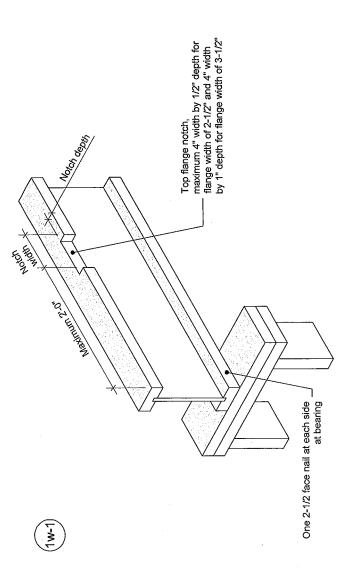
The floor layouts have usually not been checked for heating and/or plumbing interference. On-site adjustment of joists of up to 3 inches is permitted to avoid interferences. When moving a joist, the subfloor thickness shall be checked with code requirements when the joist spacing exceeds 19.2 inches.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

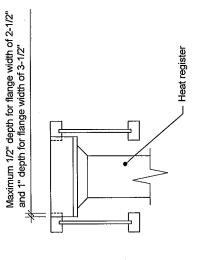
Installation of Nordic I-joists shall be as per *Nordic Joist Installation Guide for Residential Floors*. Refer to Tables 1 and 2 for maximum web hole and duct chase openings, respectively. These tables are based on the I-joists being used at their maximum spans. The minimum distance given may be reduced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

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



Revised April 12, 2012





- Notes:

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

 2. The maximum dimensions for a notch on the side of the top flange are 4-inch width by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch width by 1-inch depth for flange width of 3-1/2 inches. and 4-inch width by 1-inch depth for flange width of 3-1/2 inches.

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

 4. For other applications, contact Nordic Structures.

All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity. This document supersedes all previous versions. If the document has been in effect for more than one year, consult nordic.ca or contact Nordic Structures.

	TITLE
T 514-871-8526	Not
1 866 817-3418	AT
nordic.ca	-joj
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Notch in I-joist for Hea	CATEGORY
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Framing and Construction Details

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DOCUMENT