

Engineering Notes: EWP-Floors

INCORPORATION OF THE CITY OF OSHAWA
TRUE COPY
OF PERMIT PLANS
Nov 04 2023

MHP 23021

C. M. ...

PLEASE READ ALL NOTES PRIOR TO INSTALLATION OF THE COMPONENT

RESPONSIBILITIES

THE RESPONSIBILITY OF THE UNDERSIGNED ENGINEER IS ONLY LIMITED TO THE CALCULATION OF THIS BUILDING COMPONENT FOR THE LOADS AND CONDITIONS SHOWN ON THIS DRAWING.

THE RESPONSIBILITY OF THE UNDERSIGNED IS LIMITED TO THE VERIFICATION OF THE STRUCTURAL CAPACITY OF THE FLOOR JOISTS AND LVL BEAMS BASED ON PLACEMENT AS SHOWN ON THE LAYOUT. THE LOADS APPLIED ARE LIMITED TO THE GRAVITY EFFECTS OF THE SPECIFIED LOADS. THE STRUCTURAL INTEGRITY OF THE BUILDING AND THE EFFECT OF WIND, UPLIFT, SEISMIC, LATERAL OR OTHER FORCES, CALCULATION OF ADEQUATE SUPPORT AND ANCHORAGE OF COMPONENTS, AS WELL AS THE DIMENSIONS AND DESIGN LOADS USED TO CALCULATE COMPONENTS ARE THE RESPONSIBILITY OF THE OVERALL BUILDING DESIGNER. FLOOR JOISTS AND OSB RIM BOARD ARE DESIGNED TO CARRY UNIFORMLY DISTRIBUTED LOADS ONLY. POINT LOADS SHOULD BE TRANSFERRED THROUGH THE FLOOR CAVITY WITH TRANSFER BLOCKS. STRUCTURAL ELEMENTS SUCH AS WALLS, POSTS, CONNECTORS, AND TRANSFER BLOCKS ARE THE RESPONSIBILITY OF THE OVERALL BUILDING DESIGNER.

THE UNDERSIGNED ENGINEER DISCLAIMS ANY RESPONSIBILITY FOR DAMAGES AS A RESULT OF BEING FURNISHED FAULTY OR INCORRECT INFORMATION, SPECIFICATIONS AND/OR DESIGNS.

COMPONENT DESIGN INFORMATION

1. THIS BUILDING COMPONENT IS CERTIFIED AS AN INDIVIDUAL COMPONENT FOR THE LOADS AND CONDITIONS SHOWN ON THE CALCULATION PAGE BASED ON INFORMATION PROVIDED BY KOTT DESIGN.
2. THE BUILDING COMPONENT USED IN CONSTRUCTION MUST BE THE SAME AS INDICATED ON THE DRAWINGS.
3. UNLESS NOTED OTHERWISE ON THE LAYOUT OR BEAM CALCULATION SHEET, MEMBERS CONSISTING OF MULTIPLE PLIES MUST BE CONNECTED AS PER THE DOCUMENT "MULTIPLE MEMBER CONNECTION DETAILS" SHOWN ON PAGE 2 OF THIS DOCUMENT.
4. PASS-THRU TRANSFER BLOCK FRAMING IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.
5. IT IS ASSUMED THAT EACH LVL BEAM WHERE NOT SEATED IN A HANGER IS ATTACHED USING (4) FOUR 3-1/4" COMMON SPIRAL NAILS FOR UP TO 5.5" LONG BEARINGS AND USING (6) SIX 3-1/4" COMMON SPIRAL NAILS FOR BEARINGS EQUAL TO OR LONGER THAN 5.5", UNLESS INDICATED OTHERWISE.

CODE

THIS BUILDING COMPONENT IS DESIGNED IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA, THE ONTARIO BUILDING CODE, CCMC AND CANADIAN STANDARDS ASSOCIATION GUIDELINES.

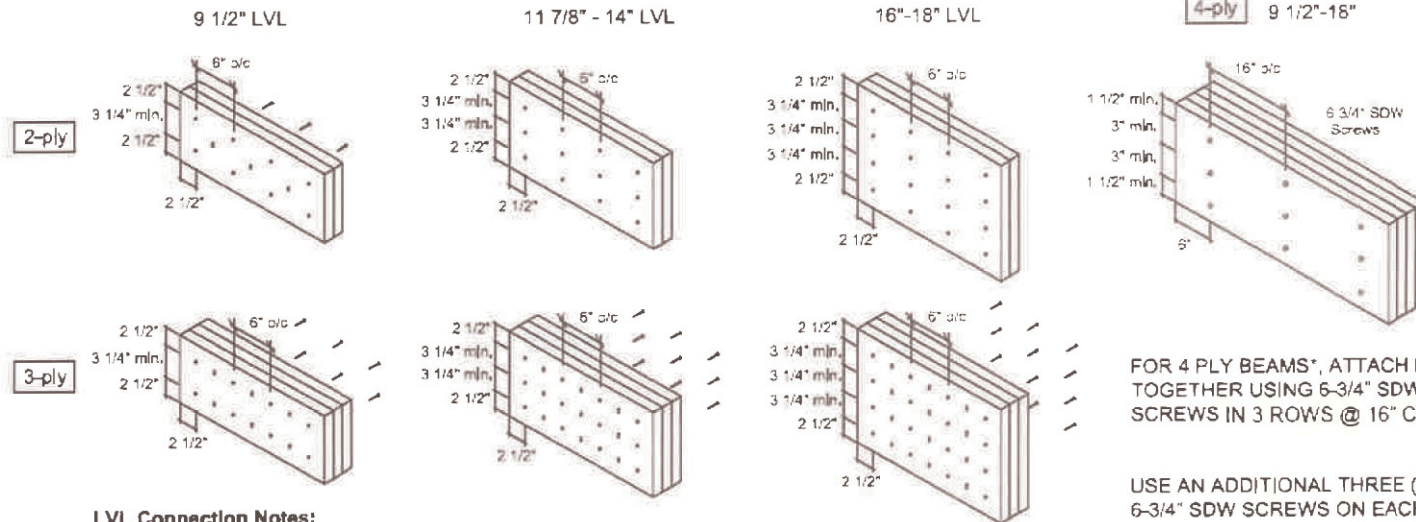
HANDLING AND INSTALLATION

1. DO NOT DRILL ANY HOLE, CUT OR NOTCH A CERTIFIED BUILDING COMPONENT WITHOUT A WRITTEN PRE-AUTHORIZATION.
2. INSTALLATION AND ASSEMBLY OF FLOOR JOISTS AND LVL BEAMS IS TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUFACTURER'S LITERATURE.



MULTIPLE MEMBER CONNECTIONS FOR BEAMS SHOWN ON KOTT LAYOUTS

MULTIPLE MEMBER CONNECTIONS FOR UNIFORMLY DISTRIBUTED TOP & SIDE LOADED LVL BEAMS SHOWN ON KOTT LAYOUTS



LVL Connection Notes:

- LVL ply width is 1-3/4"
- Nails to be 3 1/2" common wire nails.
- Nails to be located 2 1/2" min. from the top and bottom of the member. Start all nails 2 1/2" min. from ends.
- Minimum 3 1/4" spacing between rows.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.
- Head of all specified screws must be on the loaded side.

FOR 4 PLY BEAMS*, ATTACH PLIES TOGETHER USING 6-3/4" SDW SCREWS IN 3 ROWS @ 16" C/C.

USE AN ADDITIONAL THREE (3) 6-3/4" SDW SCREWS ON EACH SIDE (OF EACH FACE) AT POINT LOAD LOCATIONS @ 1/2" SPACING, WHERE APPLICABLE.

*UNLESS NOTED OTHERWISE ON LAYOUT OR CALCULATION SHEET OF BEAM IN THE FLOOR PACKAGE

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FOR MULTIPLE MEMBER CONNECTION OF BOISE ALLJOISTS REFER TO THE BOISE CASCADE INSTALLATION GUIDE

Installation Guide



(Open your phone's camera and hover over this QR code to access it!)

Ground Floor

1. All blocking to be cut from 12" joists
2. 2' & 4' Lengths to be cut from 8" Length, 6' lengths to be cut from 12" Length
3. Ends of joists to be laterally supported
4. Packing of Steel beams and attachment by others
5. Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
6. Beams identified as "B" are dropped and supplied by others
7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
8. Load transfer blocks to be installed under all point loads
9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
10. Hangers and Fasteners to be installed as per manufacturer
11. Framing shown on this layout may deviate from architectural drawings, Arch / Eng to review and approve the deviation prior to construction.
12. Multi ply beams with side loading to have all fasteners installed with the head on the side of the applied load
13. Confirmation of adequate support & anchorage of components is the responsibility of the building designer, suggested uplift connectors are as shown
14. Where beam hangs on side of 3-ply member, it is recommended that the equivalent quantity and size of nails required for the hanger attachment also be installed on opposite side of the 3-ply member

Ground Floor
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F9	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5	2	2	4	12-0-0
F7	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5			1	12-0-0
F8	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5	1	2	2	10-0-0
F6	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5			1	6-0-0
FH2	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5	1	2	2	4-0-0
F5	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5			1	2-0-0

Joist (Flush)

Label	Description	Width	Depth	Pcs	Length
F4	AJS 140	2.5	9.5	3	14-0-0
F3	AJS 140	2.5	9.5	1	12-0-0
F2	AJS 140	2.5	9.5	1	4-0-0
F1	AJS 140	2.5	9.5	2	2-0-0
J4	AJS 140	2.5	9.5	15	14-0-0
J3	AJS 140	2.5	9.5	35	12-0-0
J2	AJS 140	2.5	9.5	3	10-0-0
J1	AJS 140	2.5	9.5	9	8-0-0

Rim Board

Label	Description	Width	Depth	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5	11	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Pcs	Length
BLK1	AJS 140	2.5	9.5	LinFt	Varies	27-0-0

Hanger

Label	Pcs	Description	Beam/Girder fasteners	Supported Member fasteners
H1	1	LF359	10 10d	2 #8x1 1/4WS
H2	2	HUS1,81/10	30 16d	10 16d
H3	24	LF259	10 10d x 1 1/2	1 #8x1 1/4WS

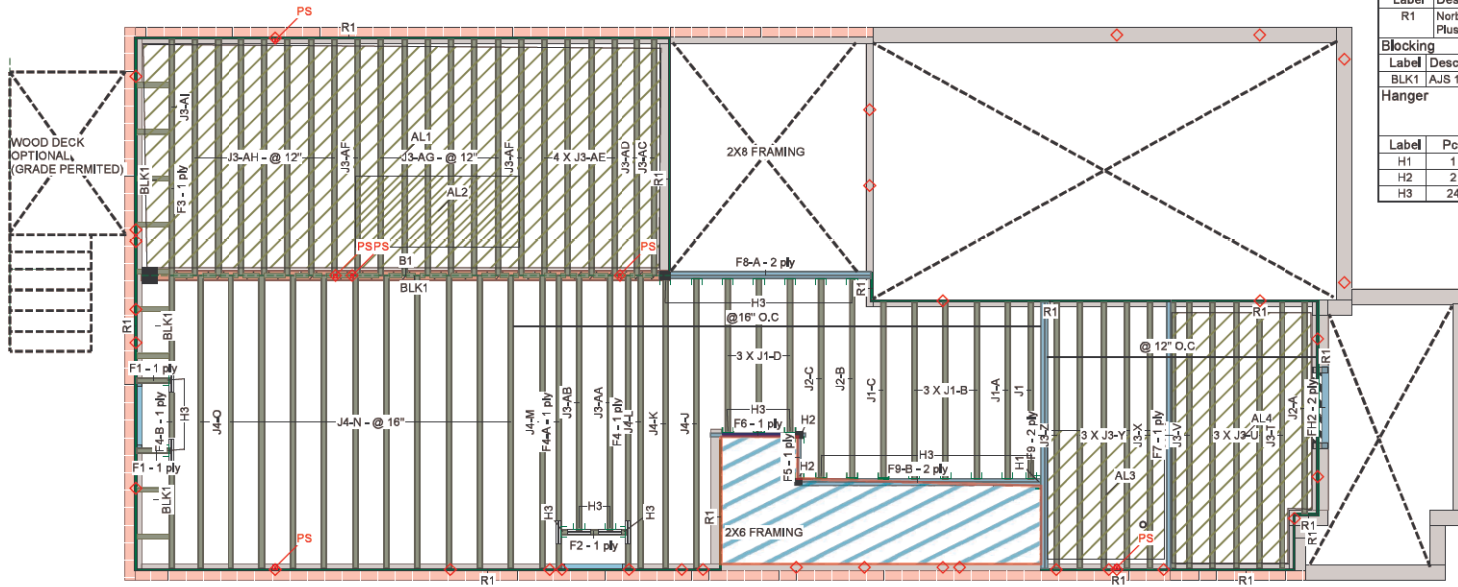
JOB INFORMATION

Builder	GREENPARK
Project	
Shipping	ZADORRA ESTATES OSHAWA, ON
Sales Rep	RALPH MIRIGELLO
Designer	W C
Plotted	June 27, 2023
Layout Name	RIVER 1-2 STD & DC
Job Path	S:\CUSTOMERS\GREENPARK\ZADORRA ESTATES\MODELS\RIVER 1\RIVER 1-2\F-RIVER 1-2\RIVER 1-2 STD & DC.dwg

DESIGN CRITERIA

Ground Floor	
Design Method	LD (Canada)
Building Code	NBCC 2015
	OBC 2015 (2020 Update)
Floor Load	40
Live Load	15
Dead Load	15
Deflection	360
LL Span	240
TL Span	360
LL Span	240
TL Span	360
LL Span	240
TL Span	240
Deflection Header	360
LL Span	240
TL Span	240
Decking	OSB
Thickness	3/4"
Fastener	Nailed & Glued
CCMC Reference	
Boise - 12472-R, 12 Forc	
LP - 12412-R, Roset	310-R
Forex - 14056-R	
Kott Inc.	
3228 Moodie Dr, Oshawa	
14 Anderson Blvd, Oshawa	
Ontario	
613-838-2775 / 905-642-4400	

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Installation Guide



(Open your phone's camera and hover over this QR code to access it)

Hatch Area represents where additional load has been applied, (e.g. 5 psf for ceramic tile)

Legend

PS	Point Load Support
Load from Above	
Wall	
Wall Opening	
Norbord Rimboard Plus 1.125 X 9.5	
AJS 140 9.5	
Versa-Lam LVL 2.1E 3100 SP 1.75 X 9.5	
1.75 X 9.5 (Dropped)	
5.25 X 8 (Dropped)	



Client: GREENPARK

Date: 6/27/2023

Page 1 of 21

Project: ZADORRA ESTATES

Input by: W C

Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

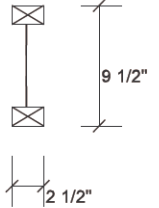
F1 AJS 140 9.500" - PASSED

Nov 04 2023

MHP 23021

PER: CHIEF BUILDING OFFICIAL


1 SPF 0-2-6
2 Hanger (LF259) 0-2-0
1'4 5/8"
1'4 5/8"



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 CBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	43	16	0	0
2	Vertical	41	15	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	5%	20 / 64	84	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	5%	19 / 61	80	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	20 ft-lb	8 1/2"	4095 ft-lb	0.005 (0%)	1.25D+1.5L	L
Unbraced	20 ft-lb	8 1/2"	4095 ft-lb	0.005 (0%)	1.25D+1.5L	L
Shear	68 lb	1 5/8"	1830 lb	0.037 (4%)	1.25D+1.5L	L
Perm Defl in. (L/187219)	0.000	8 1/2"	0.038 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch (L/70207)	0.000	8 1/2"	0.038 (L/360)	0.005 (1%)	L	L
TL Defl inch (L/51060)	0.000	8 1/2"	0.057 (L/240)	0.005 (0%)	D+L	L



JUNE 29, 2023

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Right Header: SPF, Thickness: 2 1/2"
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.

READ ALL NOTES ON THIS PAGE AND ON THE
ENGINEERING NOTES: EWP-FLOORS. THE NOTE
PAGE IS AN INTEGRAL PART OF THIS DRAWING
AS IT CONTAINS SPECIFICATIONS AND CRITERIA
USED IN THE DESIGN OF THIS COMPONENT.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-10	1-6-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

- Dry service conditions, unless noted otherwise
- Joist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

- Joist flanges must not be cut or drilled
- Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Joists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12787

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





Client: GREENPARK

Date: 6/27/2023

Page 2 of 21

Project: ZADORRA ESTATES

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CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

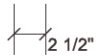
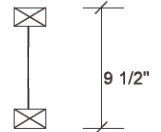
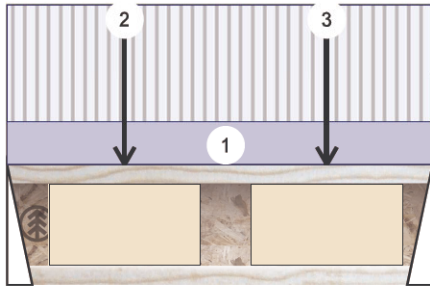
Job Name: RIVER 1-2 STD & DC

Project #:

F2 AJS 140 9.500" - PASSED

Nov 04 2023

MHP 23021

PER: *C. M...*
CHIEF BUILDING OFFICIAL

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 CBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	276	104	0	0
2	Vertical	287	107	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	34%	129 / 415	544	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	36%	134 / 430	564	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	351 ft-lb	1'1 7/16"	4095 ft-lb	0.086 (9%)	1.25D+1.5L	L
Unbraced	351 ft-lb	1'1 7/16"	4095 ft-lb	0.086 (9%)	1.25D+1.5L	L
Shear	558 lb	2'8 7/16"	1830 lb	0.305 (30%)	1.25D+1.5L	L
Perm Defl in. (L/18255)	0.002	1'3 7/8"	0.087 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/6845)	1'3 7/8"	0.087 (L/360)	0.053 (5%)	L	L
TL Defl inch	0.006 (L/4979)	1'3 7/8"	0.130 (L/240)	0.048 (5%)	D+L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Left Header: SPF, Thickness: 2 1/2"
- Right Header: SPF, Thickness: 2 1/2"
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.



JUNE 29, 2023

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: EWP-FLOORS. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0 to 2-9-11	0-9-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-9-5		Far Face	90 lb	240 lb	0 lb	0 lb	J3
3	Point	2-1-5		Far Face	87 lb	232 lb	0 lb	0 lb	J3

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

- Dry service conditions, unless noted otherwise
- Ljoist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

- Ljoist flanges must not be cut or drilled
- Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Ljoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes,

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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(800) 232-0788
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This design is valid until 4/17/2026



Client: GREENPARK

Date: 6/27/2023

Page 3 of 21

Project: ZADORRA ESTATES

Input by: W C

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OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

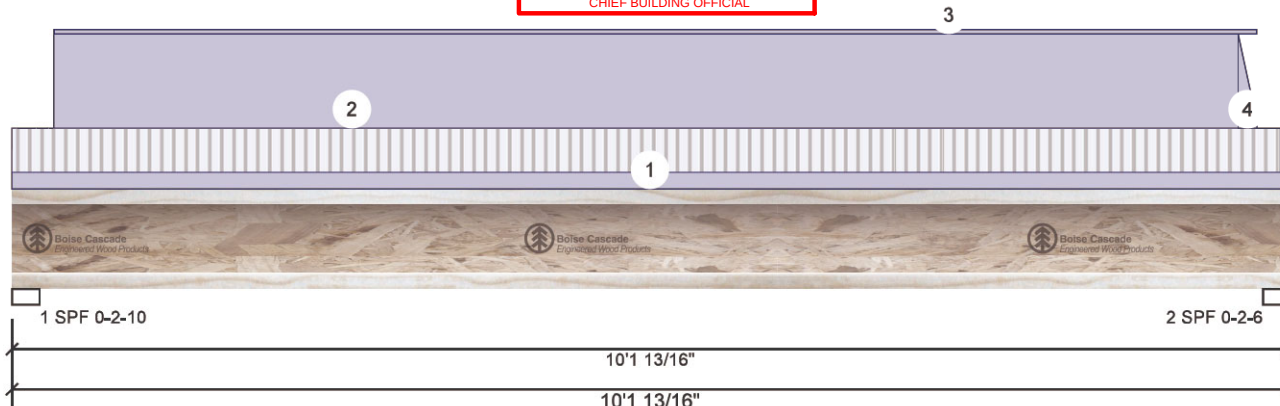
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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	102	247	0	0
2	Vertical	101	247	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	34%	309 / 152	461	L	1.25D+1.5L
2 - SPF	2.375"	Vert	34%	309 / 151	460	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1145 ft-lb	5'1"	3317 ft-lb	0.345 (35%)	1.25D+1.5L	L
Unbraced	1145 ft-lb	5'1"	3317 ft-lb	0.345 (35%)	1.25D+1.5L	L
Shear	455 lb	1 7/8"	1482 lb	0.307 (31%)	1.25D+1.5L	L
Perm Defl in.	0.072 (L/1653)	5'1 1/16"	0.329 (L/360)	0.218 (22%)	D	Uniform
LL Defl inch	0.028 (L/4256)	5'1 1/16"	0.329 (L/360)	0.085 (8%)	L	L
TL Defl inch	0.099 (L/1191)	5'1 1/16"	0.493 (L/240)	0.202 (20%)	D+L	L



JUNE 29, 2023

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 4 Bottom flange must be laterally braced at bearings.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-1-13	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-4-0 to 9-9-1		Top	42 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-4-0 to 9-10-13		Top	2 PLF	0 PLF	0 PLF	0 PLF	
4	Tapered Start	9-9-1		Top	42 PLF	0 PLF	0 PLF	0 PLF	
	End	9-10-14			3 PLF	0 PLF	0 PLF	0 PLF	

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. Ljoist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes,

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

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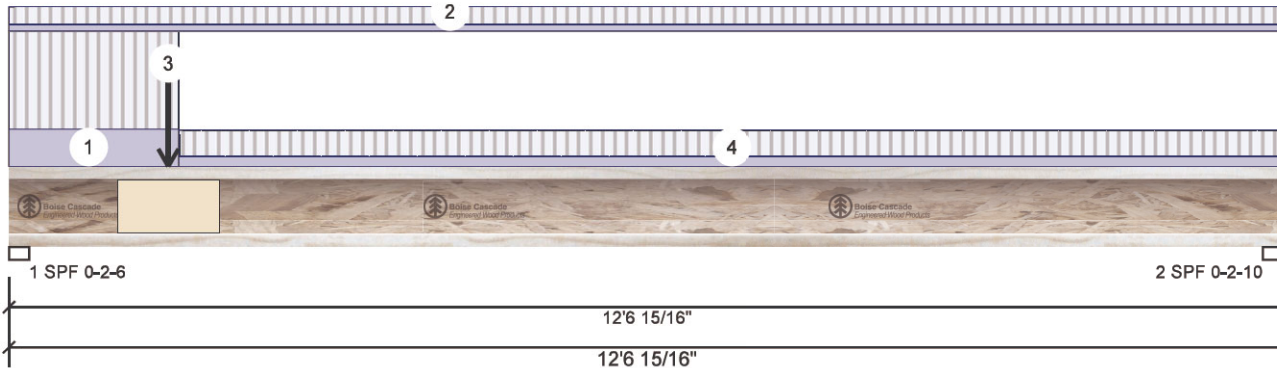
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CHIEF BUILDING OFFICIAL
**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	491	184	0	0
2	Vertical	206	77	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	58%	229 / 737	966	L	1.25D+1.5L
2 - SPF	2.625"	Vert	24%	96 / 309	405	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1500 ft-lb	4'10 3/8"	4095 ft-lb	0.366 (37%)	1.25D+1.5L	L
Unbraced	1500 ft-lb	4'10 3/8"	4095 ft-lb	0.366 (37%)	1.25D+1.5L	L
Shear	947 lb	1 5/8"	1830 lb	0.517 (52%)	1.25D+1.5L	L
Perm Defl in.	0.049 (L/3026)	5'10 13/16"	0.410 (L/360)	0.119 (12%)	D	Uniform
LL Defl inch	0.130 (L/1133)	5'10 13/16"	0.410 (L/360)	0.318 (32%)	L	L
TL Defl inch	0.179 (L/824)	5'10 13/16"	0.614 (L/240)	0.291 (29%)	D+L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- Bottom flange must be laterally braced at a maximum of 11' 1/8" o.c.



JUNE 29, 2023

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: EWP-FLOORS. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-8-2	1-6-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-6-15	0-3-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-6-14		Far Face	107 lb	287 lb	0 lb	0 lb	F2
4	Tie-In	1-8-2 to 12-6-15	0-4-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

- Dry service conditions, unless noted otherwise
- Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

- Joist flanges must not be cut or drilled
- Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Joists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12787

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





Client: GREENPARK

Date: 6/27/2023

Page 5 of 21

Project: ZADORRA ESTATES

Input by: W C

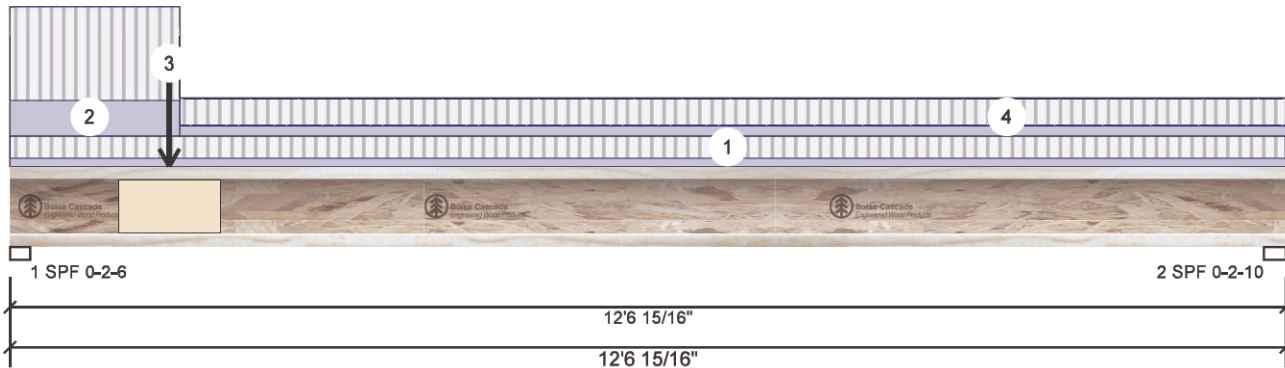
Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

F4-A AJ5 140 9.500" - PASSED Nov 04 2023

MHP 23021

PER: CHIEF BUILDING OFFICIAL


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	510	192	0	0
2	Vertical	236	89	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	61%	240 / 765	1005	L	1.25D+1.5L
2 - SPF	2.625"	Vert	27%	111 / 353	464	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1658 ft-lb	5'1 9/16"	4095 ft-lb	0.405 (40%)	1.25D+1.5L	L
Unbraced	1658 ft-lb	5'1 9/16"	4095 ft-lb	0.405 (40%)	1.25D+1.5L	L
Shear	985 lb	1 5/8"	1830 lb	0.538 (54%)	1.25D+1.5L	L
Perm Defl in.	0.054 (L/2723)	5'11 7/16"	0.410 (L/360)	0.132 (13%)	D	Uniform
LL Defl inch	0.144 (L/1023)	5'11 7/16"	0.410 (L/360)	0.352 (35%)	L	L
TL Defl inch	0.198 (L/743)	5'11 7/16"	0.614 (L/240)	0.323 (32%)	D+L	L



JUNE 29, 2023

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- Bottom flange must be laterally braced at a maximum of 11' 1/8" o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-6-15	0-4-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-8-2	1-6-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-6-14		Near Face	104 lb	276 lb	0 lb	0 lb	F2
4	Tie-In	1-8-2 to 12-6-15	0-5-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

- Dry service conditions, unless noted otherwise
- Lumber must not be treated with fire retardant or corrosive chemicals

Handling & Installation

- Lumber must not be cut or drilled
- Refer to latest copy of the Lumber product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Lumber must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12787

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 4/17/2026



Client: GREENPARK

Date: 6/27/2023

Page 6 of 21

Project: ZADORRA ESTATES

Input by: W C

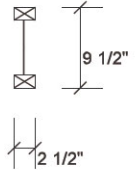
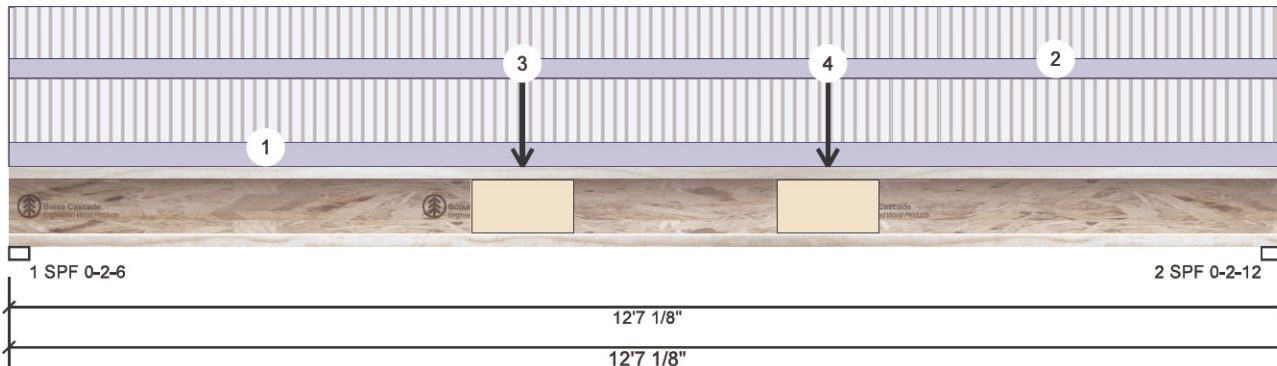
Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

F4-B AJS 140 9.500" - PASSED Nov 04 2023

MHP 23021

PER: CHIEF BUILDING OFFICIAL


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	387	145	0	0
2	Vertical	392	147	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	46%	181 / 580	761	L	1.25D+1.5L
2 - SPF	2.777"	Vert	45%	183 / 588	771	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2428 ft-lb	6'2 15/16"	4095 ft-lb	0.593 (59%)	1.25D+1.5L	L
Unbraced	2428 ft-lb	6'2 15/16"	4095 ft-lb	0.593 (59%)	1.25D+1.5L	L
Shear	753 lb	12'5 1/16"	1830 lb	0.412 (41%)	1.25D+1.5L	L
Perm Defl in.	0.077 (L/1913)	6'3 3/8"	0.410 (L/360)	0.188 (19%)	D	Uniform
LL Defl inch	0.206 (L/715)	6'3 3/8"	0.410 (L/360)	0.504 (50%)	L	L
TL Defl inch	0.283 (L/520)	6'3 3/8"	0.614 (L/240)	0.461 (46%)	D+L	L



JUNE 29, 2023

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- Bottom flange must be laterally braced at a maximum of 5' 13/16" o.c.

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: EWP-FLOORS. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-7-2	0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-6-15	0-7-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	5-0-13		Far Face	15 lb	41 lb	0 lb	0 lb	F1
4	Point	8-1-0		Far Face	15 lb	41 lb	0 lb	0 lb	F1

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

- Dry service conditions, unless noted otherwise
- Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

- Joist flanges must not be cut or drilled
- Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Joists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12787

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





Client: GREENPARK

Date: 6/27/2023

Page 7 of 21

Project: ZADORRA ESTATES

Input by: W C

Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

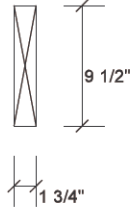
F5 Versa-Lam LVL 2.1E 3100 SP

1.750 N.Y. 508" - PASS

MHP 23021

CHIEF BUILDING OFFICIAL


1 Hanger (HUS1.81/10) 0-3-0
 2 Hanger (HUS1.81/10) 0-3-0
 1'9 9/16"
 1'9 9/16"



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	17	11	0	0
2	Vertical	17	11	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	1%	13 / 25	38	L	1.25D+1.5L
2 - Hanger	3.000"	Vert	1%	13 / 25	38	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11 ft-lb	10 13/16"	11610 ft-lb	0.001 (0%)	1.25D+1.5L	L
Unbraced	11 ft-lb	10 13/16"	11610 ft-lb	0.001 (0%)	1.25D+1.5L	L
Shear	3 lb	9 1/16"	3436 lb	0.001 (0%)	1.4D	Uniform
Perm Defl in.	0.000 (L/2802185)	10 13/16"	0.047 (L/360)	0.000 (0%)	D	Uniform
LL Defl inch	0.000 (L/1758251)	10 13/16"	0.047 (L/360)	0.000 (0%)	L	L
TL Defl inch	0.000 (L/1080367)	10 13/16"	0.071 (L/240)	0.000 (0%)	D+L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Left Header: DF, Thickness: 3 1/2"
- Right Header: DF, Thickness: 1 3/4"
- Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.



JUNE 29, 2023

READ ALL NOTES ON THIS PAGE AND ON THE
 ENGINEERING NOTES: EWP-FLOORS. THE NOTE
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-9-9	0-5-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

- Dry service conditions, unless noted otherwise
- LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

- For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

Boise Cascade Wood Products
 1111 W. Jefferson St.
 Boise, ID 83702
 (800) 232-0788
 www.bc.com
 CCMC: 12472

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400





Client: GREENPARK

Date: 6/27/2023

Page 8 of 21

Project: ZADORRA ESTATES

Input by: W C

Address: ZADORRA ESTATES CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

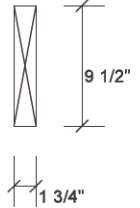
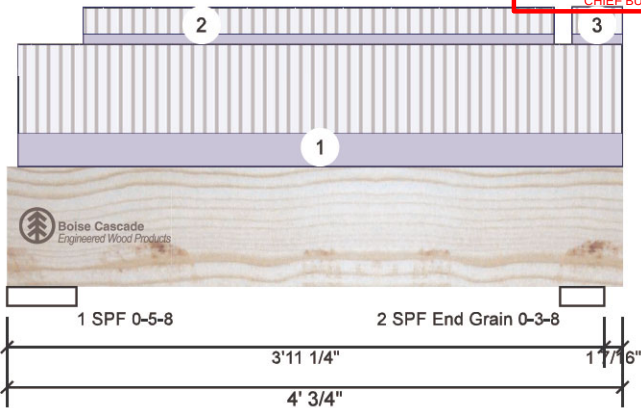
Job Name: RIVER 1-2 STD & DC

Project #:

F6 Versa-Lam LVL 2.1E 3100 SP

1.750' X 9.500' - PASS

MHP 23021

 PER: CHIEF BUILDING OFFICIAL


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	332	135	0	0
2	Vertical	336	136	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	11%	169 / 499	668	L_	1.25D+1.5L
2 - SPF	3.500"	Vert	11%	169 / 504	673	LL	1.25D+1.5L
End Grain							

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-3 ft-lb	3'11 1/4"	8823 ft-lb	0.000 (0%)	1.25D+1.5L	L_
Pos Moment	499 ft-lb	2'1 1/8"	11610 ft-lb	0.043 (4%)	1.25D+1.5L	L_
Unbraced	499 ft-lb	2'1 1/8"	11610 ft-lb	0.043 (4%)	1.25D+1.5L	L_
Shear	505 lb	1'3"	5287 lb	0.095 (10%)	1.25D+1.5L	L_
Perm Defl in.	0.001 (L/47457)	2'1 1/8"	0.113 (L/360)	0.008 (1%)	D	Uniform
LL Defl inch	0.002 (L/19078)	2'1 3/16"	0.113 (L/360)	0.019 (2%)	L	L_
TL Defl inch	0.003 (L/13608)	2'1 1/8"	0.170 (L/240)	0.018 (2%)	D+L	L_
LL Cant	-0.000 (2L/12927)	Rt Cant	0.200 (2L/360)	0.001 (0%)	L	L_
TL Cant	-0.000 (2L/9237)	Rt Cant	0.300 (2L/240)	0.001 (0%)	D+L	L_

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must have sheathing attached or be continuously braced.



JUNE 29, 2023

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Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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(800) 232-0788
www.bc.com
CCMC: 12472

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 4/17/2026



Client: GREENPARK

Date: 6/27/2023

Page 9 of 21

Project: ZADORRA ESTATES

Input by: W C

Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

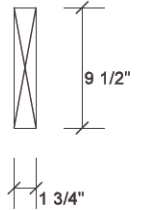
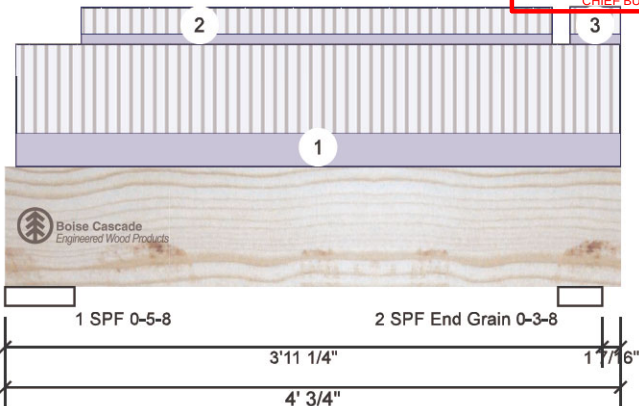
F6 Versa-Lam LVL 2.1E 3100 SP

1.750' x 9.500' - PASS

MHP 23021

PER: 

CHIEF BUILDING OFFICIAL



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-14 to 4-0-12		Far Face	50 PLF	133 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-6-0 to 3-7-5		Top	15 PLF	40 PLF	0 PLF	0 PLF	
3	Tie-In	3-8-12 to 4-0-12	1-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				



JUNE 29, 2023

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Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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Client: GREENPARK

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CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

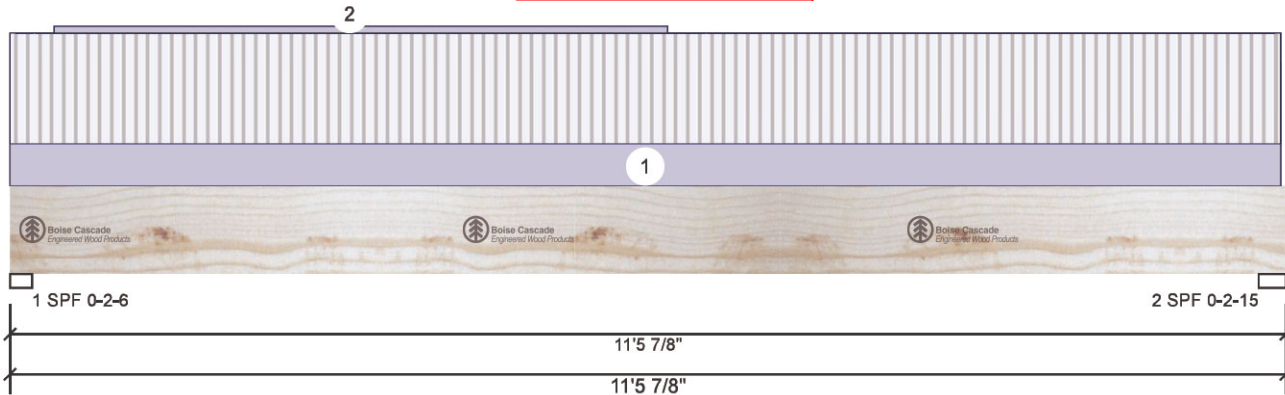
Job Name: RIVER 1-2 STD & DC

Project #:

F7 Versa-Lam LVL 2.1E 3100 SP

1.750' X 9.500' - PASS

Level: Ground Floor

PER: CHIEF BUILDING OFFICIAL


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 CBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	92	66	0	0
2	Vertical	92	63	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	9%	82 / 138	220	L	1.25D+1.5L
2 - SPF	2.938"	Vert	7%	79 / 138	217	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	597 ft-lb	5'8 3/16"	11610 ft-lb	0.051 (5%)	1.25D+1.5L	L
Unbraced	597 ft-lb	5'8 3/16"	11610 ft-lb	0.051 (5%)	1.25D+1.5L	L
Shear	187 lb	11 7/8"	5287 lb	0.035 (4%)	1.25D+1.5L	L
Perm Defl in.	0.015 (L/8817)	5'8 7/16"	0.372 (L/360)	0.041 (4%)	D	Uniform
LL Defl inch	0.022 (L/6188)	5'8 11/16"	0.372 (L/360)	0.058 (6%)	L	L
TL Defl inch	0.037 (L/3636)	5'8 9/16"	0.559 (L/240)	0.066 (7%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must be laterally braced at bearings.



JUNE 29, 2023

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: EWP-FLOORS. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-5-5	0-4-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-4-12 to 5-11-1		Top	1 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				5 PLF				

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12472

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





Client: GREENPARK

Date: 6/27/2023

Project: ZADORRA ESTATES

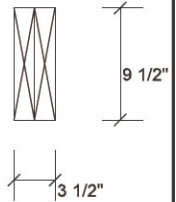
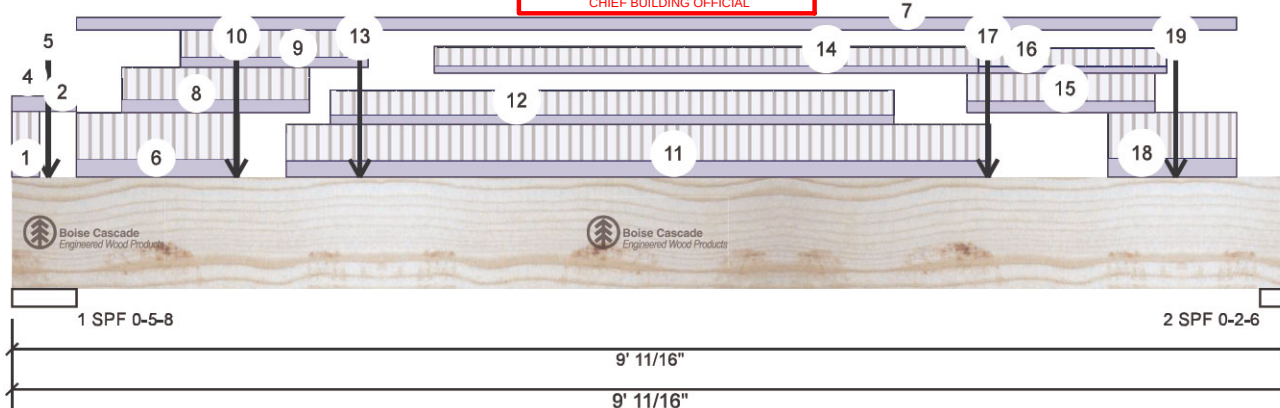
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Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON
TRUE COPY
OF PERMIT PLANS
MHP 23021
NOT FOR CONSTRUCTION

Job Name: RIVER 1-2 STD & DC

Project #:

F8-A Versa-Lam LVL 2.1E 3100 SP 1.750" 1A-500' 2-Ply - PLYWOOD Level: Ground Floor

PER: *C. M...*
CHIEF BUILDING OFFICIAL

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	2489	1362	0	0
2	Vertical	1967	1093	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	46%	1703 / 3734	5437	L	1.25D+1.5L
2 - SPF	2.375"	Vert	84%	1366 / 2950	4316	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9757 ft-lb	4'5 13/16"	23220 ft-lb	0.420 (42%)	1.25D+1.5L	L
Unbraced	9757 ft-lb	4'5 13/16"	23220 ft-lb	0.420 (42%)	1.25D+1.5L	L
Shear	4258 lb	1'3"	10574 lb	0.403 (40%)	1.25D+1.5L	L
Perm Defl in.	0.063 (L/1612)	4'7 3/8"	0.284 (L/360)	0.223 (22%)	D	Uniform
LL Defl inch	0.113 (L/902)	4'7 3/8"	0.284 (L/360)	0.399 (40%)	L	
TL Defl inch	0.177 (L/579)	4'7 3/8"	0.426 (L/240)	0.415 (41%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be continuously laterally braced.
- 6 Bottom must have sheathing attached or be continuously braced.
- 7 Lateral slenderness ratio based on full section width.



JUNE 29, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-2-5		Top	97 PLF	258 PLF	0 PLF	0 PLF	J4
2	Part. Uniform	0-0-0 to 0-5-8		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Tapered Start	0-1-5		Top	10 PLF	27 PLF	0 PLF	0 PLF	
	End	0-1-5		Top	10 PLF	27 PLF	0 PLF	0 PLF	
4	Tapered Start	0-1-5		Top	10 PLF	27 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

5. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12472

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 4/17/2026



Client: GREENPARK

Date: 6/27/2023

Project: ZADORRA ESTATES

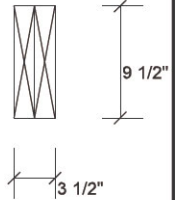
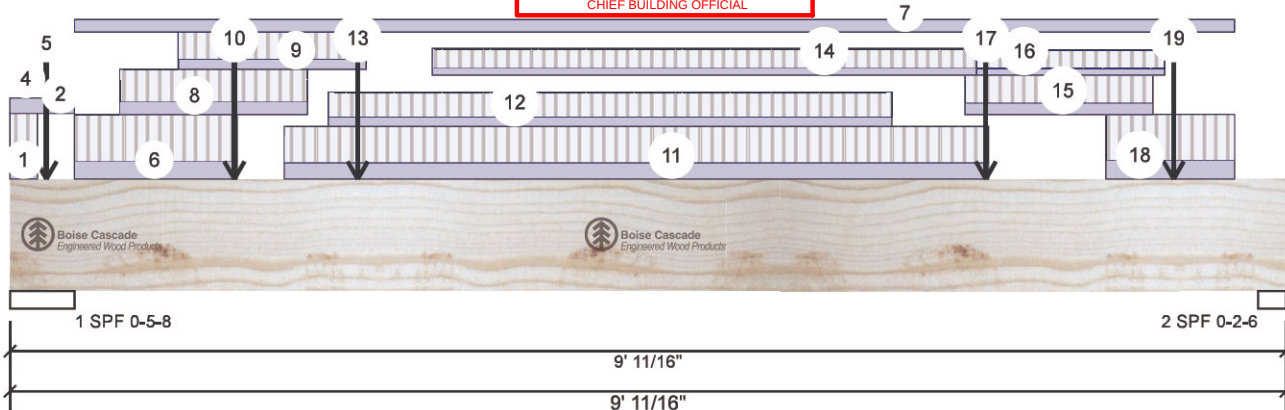
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Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

F8-A Versa-Lam LVL 2.1E 3100 SP 1.750" 12-500' 2-Ply - MHP 23021

CHIEF BUILDING OFFICIAL


...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	End	0-1-5			10 PLF	27 PLF	0 PLF	0 PLF	
5	Point	0-3-2		Near Face	74 lb	198 lb	0 lb	0 lb	J4
6	Part. Uniform	0-5-8 to 1-7-5		Top	95 PLF	253 PLF	0 PLF	0 PLF	J4
7	Part. Uniform	0-5-8 to 8-8-5		Top	66 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
8	Part. Uniform	0-9-5 to 2-1-5		Top	69 PLF	172 PLF	0 PLF	0 PLF	J3
9	Part. Uniform	1-2-5 to 2-6-5		Top	54 PLF	145 PLF	0 PLF	0 PLF	J4
10	Point	1-7-2		Near Face	120 lb	320 lb	0 lb	0 lb	J4
11	Part. Uniform	1-11-5 to 6-11-5		Top	86 PLF	199 PLF	0 PLF	0 PLF	J3
12	Part. Uniform	2-3-2 to 6-3-2		Near Face	50 PLF	133 PLF	0 PLF	0 PLF	
13	Point	2-5-10		Top	139 lb	253 lb	0 lb	0 lb	C4
	Bearing Length	0-3-8							
14	Part. Uniform	3-0-0 to 6-10-5		Top	39 PLF	103 PLF	0 PLF	0 PLF	J6
15	Part. Uniform	6-9-5 to 8-1-5		Top	60 PLF	149 PLF	0 PLF	0 PLF	J3
16	Part. Uniform	6-10-5 to 8-2-5		Top	36 PLF	97 PLF	0 PLF	0 PLF	J6
17	Point	6-11-2		Near Face	85 lb	227 lb	0 lb	0 lb	J2
18	Part. Uniform	7-9-5 to 8-8-5		Top	99 PLF	250 PLF	0 PLF	0 PLF	J3
19	Point	8-3-2		Near Face	79 lb	212 lb	0 lb	0 lb	J2
	Self Weight				9 PLF				



JUNE 29, 2023

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Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

5. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12472

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





Client: GREENPARK

Date: 6/27/2023

Project: ZADORRA ESTATES

Input by: W C

Address: ZADORRA ESTATES CORPORATION OF THE CITY OF OSHAWA

Job Name: RIVER 1-2 STD & DC

OSHAWA, ON

Project #:

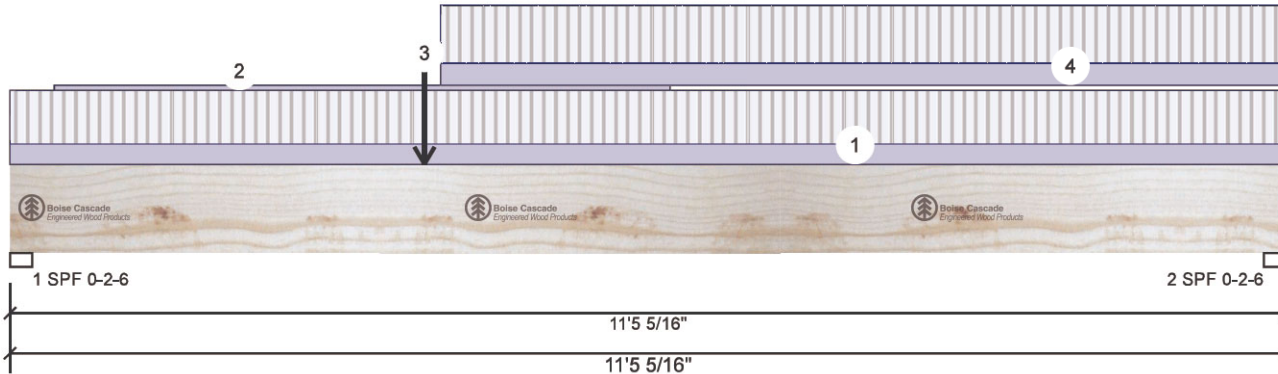
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11/17/2023

PER: *C. Marra*

CHIEF BUILDING OFFICIAL

F9 Versa-Lam LVL 2.1E 3100 SP 1.750" X 9.500' 2-Plv - PASSIVE Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	875	421	0	0
2	Vertical	490	256	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	36%	526 / 1312	1838	L	1.25D+1.5L
2 - SPF	2.375"	Vert	21%	319 / 735	1054	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6349 ft-lb	3'8 5/8"	23220 ft-lb	0.273 (27%)	1.25D+1.5L	L
Unbraced	6349 ft-lb	3'8 5/8"	23220 ft-lb	0.273 (27%)	1.25D+1.5L	L
Shear	1814 lb	11 7/8"	10574 lb	0.172 (17%)	1.25D+1.5L	L
Perm Defl in.	0.051 (L/2649)	5'3 3/4"	0.372 (L/360)	0.136 (14%)	D	Uniform
LL Defl inch	0.106 (L/1262)	5'3 1/16"	0.372 (L/360)	0.285 (29%)	L	L
TL Defl inch	0.157 (L/855)	5'3 5/16"	0.559 (L/240)	0.281 (28%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be continuously laterally braced.
- 6 Bottom must be laterally braced at a maximum of 7'8 3/4" o.c.
- 7 Lateral slenderness ratio based on full section width.



JUNE 29, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0 to 11-5-5	0-3-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-4-12 to 5-11-1		Top	1 PLF	0 PLF	0 PLF	0 PLF	
3	Point	3-8-10		Far Face	484 lb	1156 lb	0 lb	0 lb	F9
4	Tie-In	3-10-6 to 11-5-5	0-3-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				9 PLF				

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12472

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



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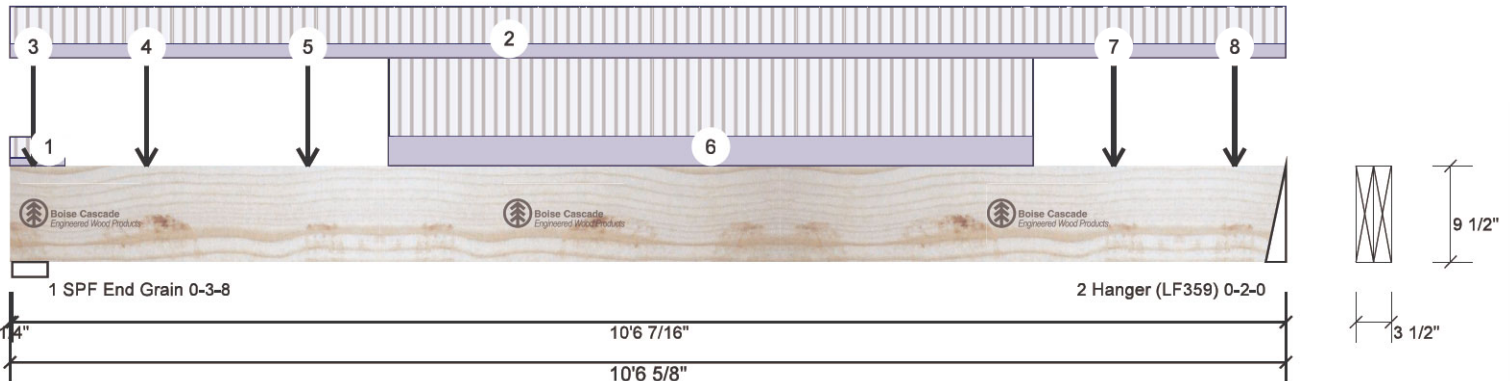
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PER: _____
CHIEF BUILDING OFFICIAL



Unfactored Reactions UNPATTERNED Ib (Uplift)

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1176	497	0	0
2	Vertical	1156	484	0	0

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	19%	621 / 1764	2385	LL	1.25D+1.5L
2 - Hanger	2.000"	Vert	31%	605 / 1735	2339	_L	1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5995 ft-lb	5'3 3/16"	23220 ft-lb	0.258 (26%)	1.25D+1.5L	__L
Unbraced	5995 ft-lb	5'3 3/16"	23220 ft-lb	0.258 (26%)	1.25D+1.5L	__L
Shear	2202 lb	9'7 1/8"	10574 lb	0.208 (21%)	1.25D+1.5L	__L
Perm Defl in.	0.045 (L/2718)	5'3 9/16"	0.343 (L/360)	0.132 (13%)	D	Uniform
LL Defl inch	0.109 (L/1136)	5'3 9/16"	0.343 (L/360)	0.317 (32%)	L	__L
TL Defl inch	0.154 (L/801)	5'3 9/16"	0.514 (L/240)	0.300 (30%)	D+L	__L
LL Cant	-0.001 (2L/713)	Lt Cant	0.200 (2L/360)	0.003 (0%)	L	__L
TL Cant	-0.001 (2L/503)	Lt Cant	0.300 (2L/240)	0.003 (0%)	D+L	__L

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Right Header: DF, Thickness: 3 1/2"
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Multiple plies must be fastened together as per manufacturer's details.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be continuously laterally braced.
- 8 Bottom must have sheathing attached or be continuously braced.
- 9 Lateral slenderness ratio based on full section width.



JUNE 29, 2023

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1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

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www.bc.com
CCMC: 12472

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 4/17/2026



Client: GREENPARK

Date: 6/27/2023

Project: ZADORRA ESTATES

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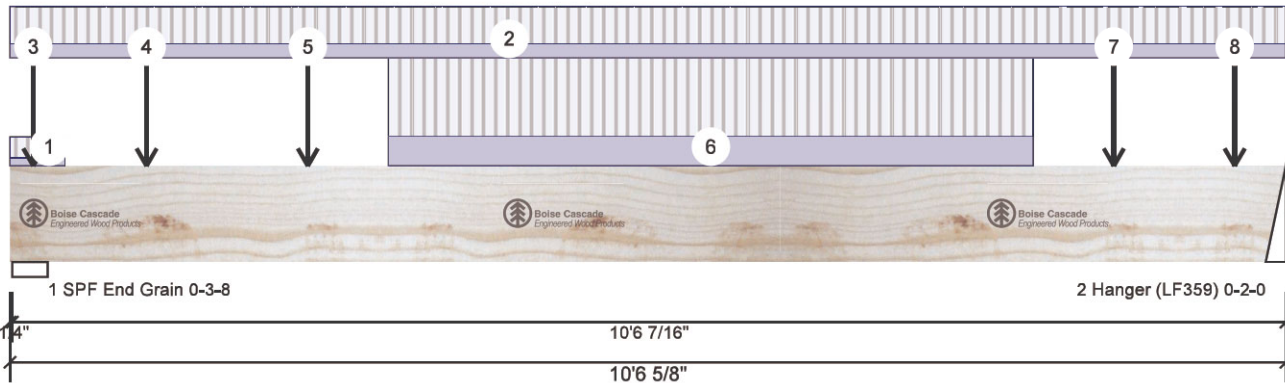
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CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

Page 15 of 21

F9-B Versa-Lam LVL 2.1E 3100 SP 1.750" 1A 5000 2-Ply - PMS 23021

PER: CHIEF BUILDING OFFICIAL


ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-7	1-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 10-6-10	1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-2-5		Far Face	11 lb	17 lb	0 lb	0 lb	F5
4	Point	1-1-9		Far Face	80 lb	213 lb	0 lb	0 lb	J2
5	Point	2-5-9		Far Face	85 lb	228 lb	0 lb	0 lb	J2
6	Part. Uniform	3-1-9 to 8-5-9		Far Face	57 PLF	151 PLF	0 PLF	0 PLF	
7	Point	9-1-9		Far Face	66 lb	176 lb	0 lb	0 lb	J1
8	Point	10-1-9		Far Face	44 lb	119 lb	0 lb	0 lb	J1
	Self Weight				9 PLF				



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Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

5. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

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(800) 232-0788
www.bc.com
CCMC: 12472

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
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Client: GREENPARK

Date: 6/27/2023

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Project: ZADORRA ESTATES

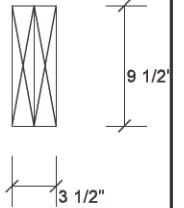
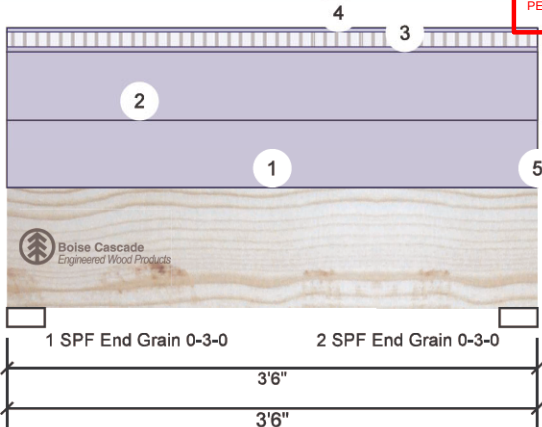
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CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON
TRUE COPY
OF PERMIT PLANS
Nov 07 2023

Job Name: RIVER 1-2 STD & DC

Project #:

FH2 Versa-Lam LVL 2.1E 3100 SP 1.750" X 9.500" 2-Ply - PASED MHP 23021

PER: 
CHIEF BUILDING OFFICIAL

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 CBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	19	207	0	0
2	Vertical	19	207	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	4%	290 / 0	290	Uniform	1.4D
2 - SPF End Grain	3.000"	Vert	4%	290 / 0	290	Uniform	1.4D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	202 ft-lb	1'9"	15093 ft-lb	0.013 (1%)	1.4D	Uniform
Unbraced	202 ft-lb	1'9"	15093 ft-lb	0.013 (1%)	1.4D	Uniform
Shear	196 lb	1' 1/2"	6873 lb	0.029 (3%)	1.25D+1.5L	L
Perm Defl in. (L/70518)	0.001	1'9"	0.104 (L/360)	0.005 (1%)	D	Uniform
LL Defl inch (L/759458)	0.000	1'9"	0.104 (L/360)	0.000 (0%)	L	L
TL Defl inch (L/64526)	0.001	1'9"	0.156 (L/240)	0.004 (0%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 3'6" o.c.
- 6 Bottom must be laterally braced at a maximum of 3'6" o.c.
- 7 Lateral slenderness ratio based on full section width.



JUNE 29, 2023

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTES: EWP-FLOORS. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-6-0		Top	51 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 3-6-0		Near Face	51 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Tapered Start	0-0-0		Near Face	4 PLF	11 PLF	0 PLF	0 PLF	
	End	3-6-0			4 PLF	11 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

5. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12472

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 4/17/2026



Client: GREENPARK

Date: 6/27/2023

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Project: ZADORRA ESTATES

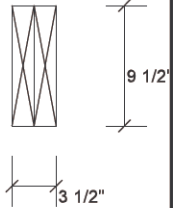
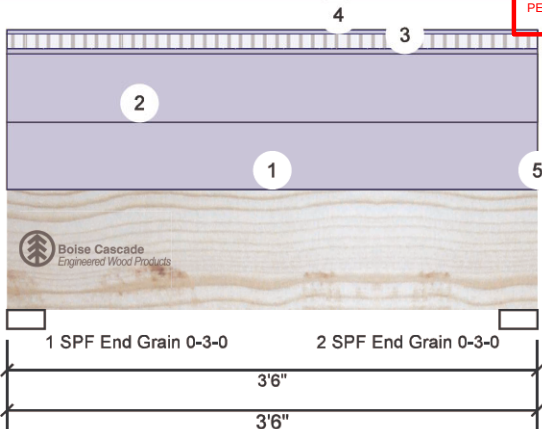
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Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

FH2 Versa-Lam LVL 2.1E 3100 SP 1.750" X 9.500" 2-Ply - PASSED MHP 23021

PER: *C. M...*
CHIEF BUILDING OFFICIAL

...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Part. Uniform	0-0-0 to 3-6-0		Near Face	3 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
5	Part. Uniform	3-6-0 to 3-6-0		Near Face	102 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				9 PLF				



JUNE 29, 2023

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USED IN THE DESIGN OF THIS COMPONENT.

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

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Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12472

Kott Inc.

3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





Client: GREENPARK

Date: 6/27/2023

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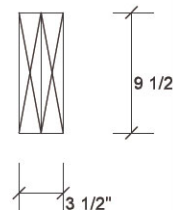
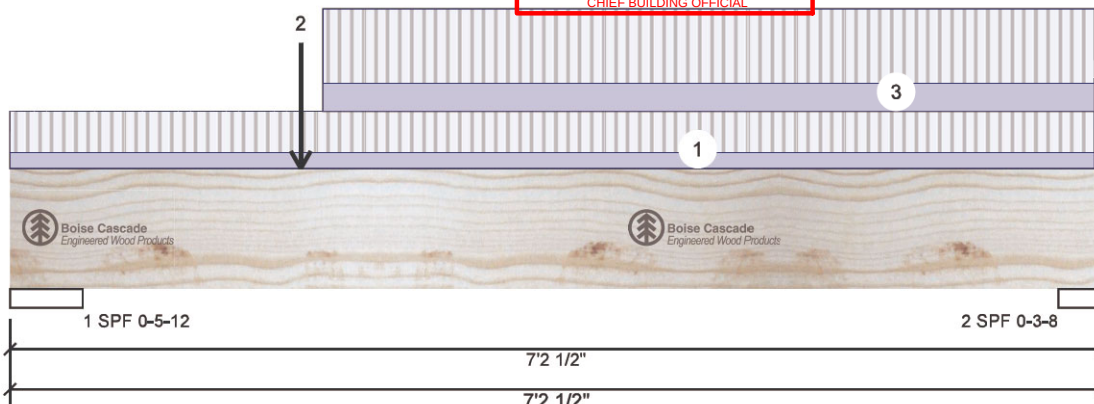
Project: ZADORRA ESTATES

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Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

F10 Versa-Lam LVL 2.1E 3100 SP 1.750" x 9.500" 2-Ply - PATTERNED - PASSED PER: **MHP 23021**PER: *C. Marra*
CHIEF BUILDING OFFICIAL

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	563	282	0	0
2	Vertical	253	139	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.764"	Vert	10%	352 / 844	1196	L	1.25D+1.5L
2 - SPF	3.500"	Vert	7%	173 / 379	553	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1732 ft-lb	1'11"	23220 ft-lb	0.075 (7%)	1.25D+1.5L	L
Unbraced	1732 ft-lb	1'11"	23220 ft-lb	0.075 (7%)	1.25D+1.5L	L
Shear	1160 lb	1'3 1/4"	10574 lb	0.110 (11%)	1.25D+1.5L	L
Perm Defl in. (L/14996)	0.005	3'4 15/16"	0.219 (L/360)	0.024 (2%)	D	Uniform
LL Defl inch	0.010 (L/7575)	3'4 5/8"	0.219 (L/360)	0.048 (5%)	L	L
TL Defl inch	0.016 (L/5033)	3'4 11/16"	0.328 (L/240)	0.048 (5%)	D+L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top must be continuously laterally braced.
- Bottom must be laterally braced at a maximum of 5'3 1/2" o.c.
- Lateral slenderness ratio based on full section width.



JUNE 29, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 7-1-14	0-3-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-11-0		Near Face	279 lb	621 lb	0 lb	0 lb	F8
3	Tie-In	2-0-12 to 7-1-14	0-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				9 PLF				

Notes

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Lumber

- Dry service conditions, unless noted otherwise
- LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

5. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(800) 232-0788
www.bc.com
CCMC: 12472

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613-838-2775 / 905-642-4400



This design is valid until 4/17/2026



Client: GREENPARK

Date: 6/27/2023

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Project: ZADORRA ESTATES

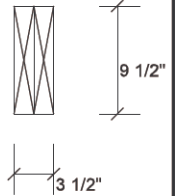
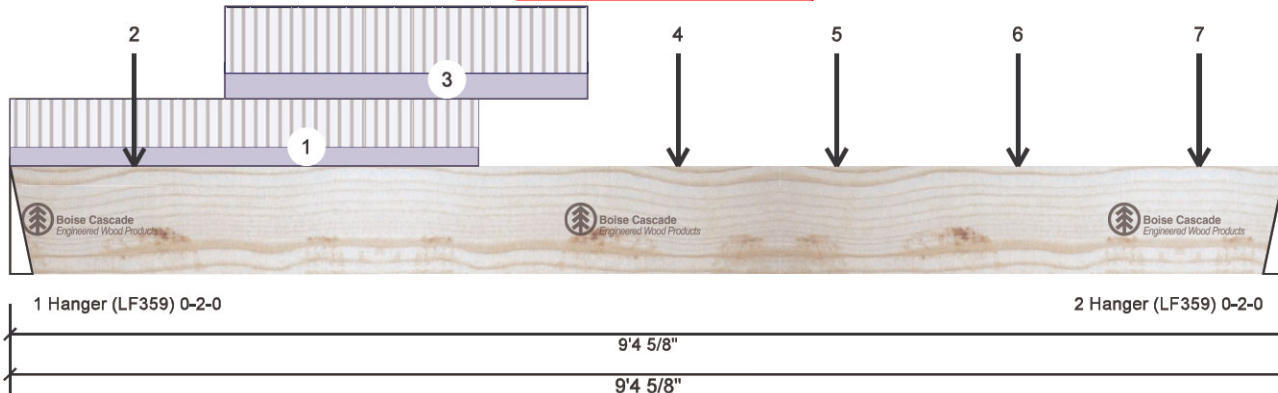
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CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON
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OF PERMIT PLANS
16704 2023

Job Name: RIVER 1-2 STD & DC

Project #:

F8 Versa-Lam LVL 2.1E 3100 SP 1.750" X 9.500" 2-PLY - PASSIVE Level: Second Floor

PER: 
CHIEF BUILDING OFFICIAL

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	621	279	0	0
2	Vertical	414	201	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	17%	349 / 931	1280	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	11%	251 / 621	872	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2440 ft-lb	4' 7/8"	23220 ft-lb	0.105 (11%)	1.25D+1.5L	L
Unbraced	2440 ft-lb	4' 7/8"	23220 ft-lb	0.105 (11%)	1.25D+1.5L	L
Shear	1138 lb	11 1/2"	10574 lb	0.108 (11%)	1.25D+1.5L	L
Perm Defl in.	0.016 (L/6947)	4'7"	0.306 (L/360)	0.052 (5%)	D	Uniform
LL Defl inch	0.034 (L/3219)	4'6 11/16"	0.306 (L/360)	0.112 (11%)	L	L
TL Defl inch	0.050 (L/2200)	4'6 13/16"	0.459 (L/240)	0.109 (11%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Left Header: DF, Thickness: 3 1/2"
- 4 Right Header: DF, Thickness: 3 1/2"
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Multiple plies must be fastened together as per manufacturer's details.
- 7 Top loads must be supported equally by all plies.
- 8 Top must be continuously laterally braced.
- 9 Bottom must have sheathing attached or be continuously braced.
- 10 Lateral slenderness ratio based on full section width.



JUNE 29, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-5-6		Top	28 PLF	74 PLF	0 PLF	0 PLF	
2	Point	0-11-0		Far Face	45 lb	120 lb	0 lb	0 lb	J6
3	Part. Uniform	1-7-0 to 4-3-0		Far Face	38 PLF	100 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

5. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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This design is valid until 4/17/2026



Client: GREENPARK

Date: 6/27/2023

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Project: ZADORRA ESTATES

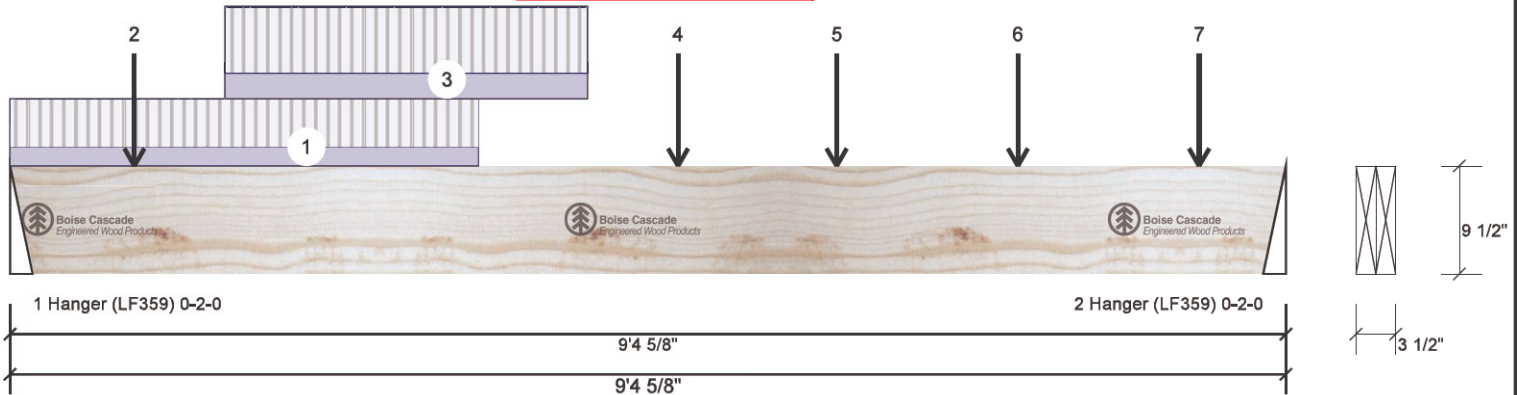
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CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

F8 Versa-Lam LVL 2.1E 3100 SP 1.750" X 9.500' 2-Plv - PASSED PERMIT PLANS MHP 23021

CHIEF BUILDING OFFICIAL


...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Point	4-11-0		Far Face	47 lb	125 lb	0 lb	0 lb	J6
5	Point	6-1-0		Far Face	35 lb	92 lb	0 lb	0 lb	J6
6	Point	7-5-0		Far Face	37 lb	98 lb	0 lb	0 lb	J5
7	Point	8-9-0		Far Face	29 lb	78 lb	0 lb	0 lb	J5
	Self Weight				9 PLF				



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Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

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Client: GREENPARK

Date: 6/27/2023

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Project: ZADORRA ESTATES

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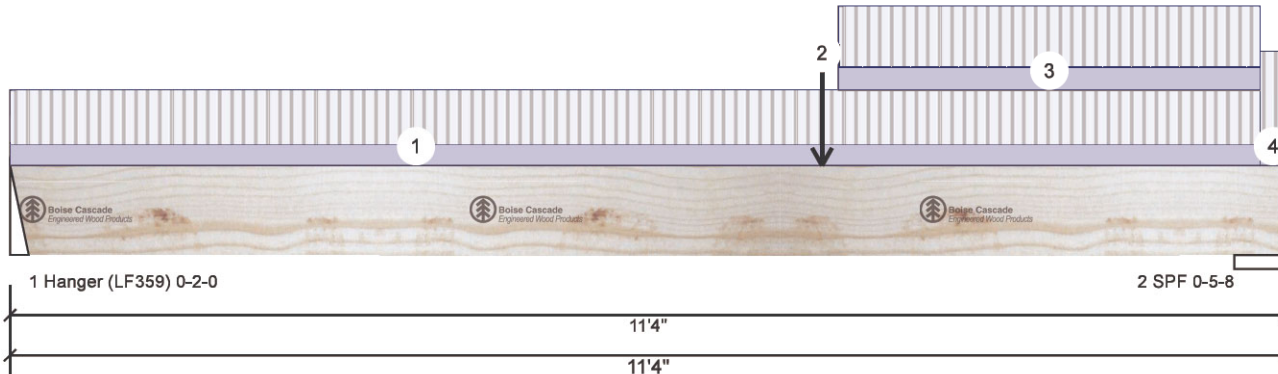
Address: ZADORRA ESTATES
CORPORATION OF THE CITY OF OSHAWA
OSHAWA, ON

Job Name: RIVER 1-2 STD & DC

Project #:

F9-A Versa-Lam LVL 2.1E 3100 SP 1.750" 1A-5000' 2-Ply - MHP 23021

PER: CHIEF BUILDING OFFICIAL



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	231	154	0	0
2	Vertical	406	237	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	7%	193 / 346	539	L	1.25D+1.5L
2 - SPF	5.500"	Vert	8%	297 / 609	906	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2791 ft-lb	7'2 9/16"	23220 ft-lb	0.120 (12%)	1.25D+1.5L	L
Unbraced	2791 ft-lb	7'2 9/16"	23220 ft-lb	0.120 (12%)	1.25D+1.5L	L
Shear	830 lb	10'1"	10574 lb	0.079 (8%)	1.25D+1.5L	L
Perm Defl in.	0.025 (L/5175)	5'10 1/16"	0.361 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.043 (L/3048)	5'11"	0.361 (L/360)	0.118 (12%)	L	
TL Defl inch	0.068 (L/1918)	5'10 5/8"	0.542 (L/240)	0.125 (13%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Left Header: DF, Thickness: 3 1/2"
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Multiple plies must be fastened together as per manufacturer's details.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be continuously laterally braced.
- 8 Bottom must be laterally braced at a maximum of 7'2 9/16" o.c.
- 9 Lateral slenderness ratio based on full section width.



JUNE 29, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-1-4	0-4-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	7-2-9		Far Face	201 lb	414 lb	0 lb	0 lb	F8
3	Tie-In	7-4-5 to 11-1-4	0-4-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	11-1-4 to 11-4-0	0-6-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				9 PLF				

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

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