



Boise Cascade
Engineered Wood Products
Eastern Region Office
 3465 Lawrenceville-Suwanee Road, Suite A
 Suwanee, Georgia 30024-2410
 770-614-4010 1-800-524-7209 toll free

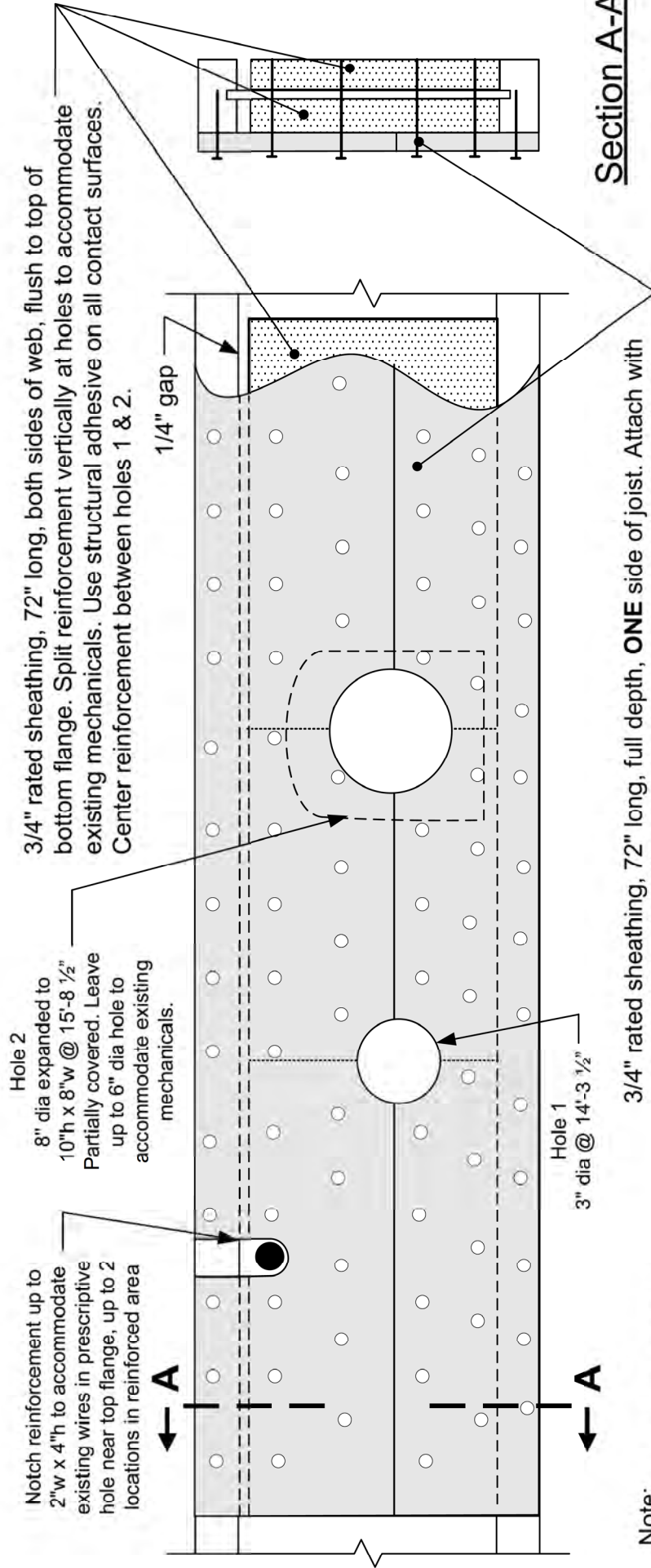
No additional holes allowed in reinforced area.



Description: Floor Joist F-J-4(i14486)

Loading: See attached BC Calc® Design Report

Project: Lot 593 Colony
 Address: 98 White Doe Crossing
 City, St: Cameron, NC
 Retailer: Builders FirstSource
 Distributor:
 Date: 8/9/24



3/4" rated sheathing, 72" long, both sides of web, flush to top of bottom flange. Split reinforcement vertically at holes to accommodate existing mechanicals. Use structural adhesive on all contact surfaces. Center reinforcement between holes 1 & 2.

Hole 2
 8" dia expanded to 10" h x 8" w @ 15'-8 1/2"
 Partially covered. Leave up to 6" dia hole to accommodate existing mechanicals.

Notch reinforcement up to 2" w x 4" h to accommodate existing wires in prescriptive hole near top flange, up to 2 locations in reinforced area

3/4" rated sheathing, 72" long, full depth, **ONE** side of joist. Attach with 4 rows of 16d nails at 4" on center in web area and 1 row 8d nails at 6" on center in top/bottom flange. Split reinforcement horizontally to accommodate existing mechanicals. Use structural adhesive on all contact surfaces. Center reinforcement between holes 1 & 2.

Note:
 8d nail = 0.113" x 2 1/2" min
 10d nail = 0.128" x 3" min
 16d nail = 0.135" x 3 1/2" min

Section A-A

Not to Scale

This certification is for repair of a Boise Cascade individual building component only and not for the component design or the building system as a whole. The component design attached to this report was provided by others. The building designer of record is responsible for determining that the dimensions and loads for each component match those required by the plans and by the actual end use of the component. Verification of framing methods, bracing design, support conditions, connections, etc. is the responsibility of the building designer of record.

Single 14" BCI® 4500s-1.8

FAILED

2nd Floor\Floor Joists\FJ-4(i14486) (Joist)

Dry | 2 spans | No cant. | 24" OCS | Non-Repetitive | Glued & nailed

August 9, 2024 18:38:48

BC CALC® Member Report

Build 8892

Job name:

File name: CLP593_JORDAN 4070057-REPAIR B

Address:

Description: 2nd Floor\Floor Joists\FJ-2

City, State, Zip:

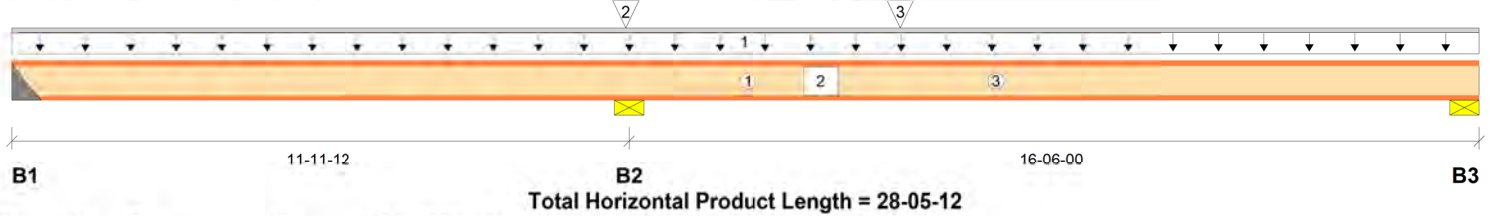
Specifier:

Customer:

Designer:

Code reports: ESR-1336

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 2"	436 / 124	62 / 0			
B2, 5-1/2"	1425 / 0	575 / 0			
B3, 2-1/2"	576 / 35	161 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	100% Live	90% Dead	115% Snow	160% Wind	125% Roof Live	OCS
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	28-05-12	Top	80	20				n/a
2	B25(i7320)	Conc. Pt. (lbs)	L	11-11-00	11-11-00	Top		114				n/a
3	B26(i7322)	Conc. Pt. (lbs)	L	17-03-00	17-03-00	Top		114				n/a

Hole Summary

Description	Center	Elevation	Ref.	Height	Width	Shape	Orientation
H01 WASTE	14-03-08	3"	L	3"		Circular	Horizontal
H02 WASTE	15-08-08	6.5"	L	10"	8"	Rectangular	Horizontal
H03 DRYER VENT	19-01-04	7"	L	4"		Circular	Horizontal

Controls Summary

Value	% Allowable	Duration	Case	Location
Pos. Moment	2604 ft-lbs	72.6%	100%	3 21-01-05
Neg. Moment	-2736 ft-lbs	76.3%	100%	1 11-11-12
End Reaction	736 lbs	61.4%	100%	3 28-05-12
Int. Reaction	2000 lbs	79.2%	100%	1 11-11-12
End Shear	715 lbs	39.2%	100%	3 28-03-04
Cont. Shear	1039 lbs	57.0%	100%	1 12-02-08
Hole #1 Shear	831 lbs	64.7%	100%	1 14-03-08
Hole #2 Shear	723 lbs	170.1%	100%	1 15-04-08
Hole #3 Shear	284 lbs	24.1%	100%	9 19-01-04
Total Load Deflection	L/738 (0.266")	32.5%	n/a	3 20-05-15
Live Load Deflection	L/974 (0.202")	49.3%	n/a	12 20-07-07
Total Neg. Defl.	L/999 (-0.046")	n/a	n/a	3 07-04-13
Max Defl.	0.266"	17.7%	n/a	3 20-05-15
Span / Depth	14.0			
Hole Location	Failed - See Cautions			

Bearing Supports

Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1 Hanger 2" x 1-3/4"	498 lbs	34.8%	46.3%	IUS1.81/14
B2 Wall/Plate 5-1/2" x 1-3/4"	2000 lbs	48.9%	79.2%	Unspecified
B3 Wall/Plate 2-1/2" x 1-3/4"	736 lbs	39.6%	61.4%	Unspecified



Single 14" BCI® 4500s-1.8

FAILED

2nd Floor\Floor Joists\FJ-4(i14486) (Joist)

Dry | 2 spans | No cant. | 24" OCS | Non-Repetitive | Glued & nailed

August 9, 2024 18:38:48

BC CALC® Member Report

Build 8892

Job name:

Address:

City, State, Zip:

Customer:

Code reports: ESR-1336

File name: CLP593_JORDAN 4070057-REPAIR B

Description: 2nd Floor\Floor Joists\FJ-2

Specifier:

Designer:

Company:

Cautions

Uplift of -62 lbs found at bearing B1.

Member has insufficient shear resistance at hole #2 to carry load.

Hole 1 is too close to Hole 2. They must be at least 25-1/2" apart.

Header for the hanger IUS1.81/14 is a Triple 1-3/4" x 18" LVL beam.

Hanger IUS1.81/14 requires (12) 10d face nails, (2) Strong-Grip joist nails.

Notes

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

Design meets User specified (L/480) Live load deflection criteria.

Design meets arbitrary (1.5") Maximum Total load deflection criteria.

Hanger Manufacturer: Simpson Strong-Tie, Inc.

Composite EI value based on 3/4" thick Softwood plywood sheathing glued and nailed to member.

Design based on Dry Service Condition.

BC CALC® analysis is based on IBC 2015.

Calculations assume member is fully braced.

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 suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

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