DFS-01-CO

City of Portland, Oregon - Bureau of Development Services

1900 SW Fourth Avenue • Portland, Oregon 97201 • 503-823-7300 • www.portlandoregon.gov/bds

Deferred Submittal Requirements and Application

Applicants will provide:

- ☑ A copy of this application
- ☑ Three (3) sets of plans
- ☑ One (1) set of calculations
- ☐ Two (2) sets of product information – N/A
- ☑ Drawings and calculations must be stamped and signed by an Engineer registered in Oregon and approved by the Architect/Engineer of record for the building.
- ☐ Permit fee (paid at time of submittal)
- ☐ If the DFS includes exterior elements, plan views and elevations identifying the location(s) as approved by the Architect and Engineer of Record must be submitted. – N/A
- ☑ One (1) copy of your main building permit approved plans (NOTE: Approved plans do not need to be submitted if your project has a development liaison assigned)

Contractor submittal information:

Contact name Martin McDermott

Address 2300 E. 3rd Loop

City Vancouver State WA Zip Code 98661

Phone 503-519-7870 E-mail

Value of deferred submittal $14,000 Issued main building permit # 12-209819-CO

Description/Scope of work Redbuilt Joist Package

Fees

Deferred submittal (DFS) fees are collected in addition to the standard building review fee paid on the main building permit. DFS fees cover the cost of the additional processing and review time associated with the design build element.

The DFS fee for processing and reviewing deferred plan submittals is 10 percent of the building permit fee calculated using the value of the particular deferred portion of the project.,

Minimum fee: Residential, one and two family dwelling ... $123 for DFS with valuation of less than or equal to $222,000

Commercial and all other projects ..... $307 for DFS with valuation of less than or equal to $680,000

The Bureau of Development Services (BDS) fee schedule is also available on the BDS web site at ***www.portlandoregon.gov/bds*** | select the Fees tab.

Helpful Information

Bureau of Development Services
1900 SW 4th Avenue, Portland, OR 97201

Submit your plans to:
Development Services Center (DSC), First Floor,
Tuesday - Friday:
8:00 am - 12:00 pm
Closed Mondays

Important Telephone Numbers

BDS main number	503-823-7300
DSC automated information line	503-823-7310
Building code information	503-823-1456
BDS 24 hour inspection request line	503-823-7000
Residential information for one and two family dwellings	503-823-7388
City of Portland TTY	503-823-6868

Preliminary Structural Checksheet Response

Permit #: 12-209819-DFS-01-CO **Date:** 5/24/13

Customer name and phone number: Martin McDermott 503-519-7870

Note: Please number each change in the '#' column. Use as many lines as necessary to describe your changes. Indicate which reviewer's checksheet you are responding to and the item your change addresses. If the item is not in response to a checksheet, write **customer** *in the last column.*

#	Description of changes, revisions, additions, etc.	Checksheet and item #
1	Redbuilt Package with Engineer of Record Review Stamp is attached on Plan Sheets and cover page of Calcs.	X

(for office use only)

Mike W. STR.

Preliminary Structural Checksheet Response

Permit #: 12-209819-DFS-01-CO **Date:** 5/24/13

Customer name and phone number: Martin McDermott 503-519-7870

Note: Please number each change in the '#' column. Use as many lines as necessary to describe your changes. Indicate which reviewer's checksheet you are responding to and the item your change addresses. If the item is not in response to a checksheet, write **customer** *in the last column.*

#	Description of changes, revisions, additions, etc.	Checksheet and item #
1	Redbuilt Package with Engineer of Record Review Stamp is attached on Plan Sheets and cover page of Calcs.	X

RECEIVED
MAY 2 0 2013
BDS
DOCUMENT SERVICES

(for office use only)

RedBUILT
Engineered Wood Products

Product Package

Division Crossing Pad Building

Portland, OR

RedBuilt™ Project Number: 082538

Reference Documents: ***4/30/2013***

Drawing Section	By	Date	Revision	Type	Sheets
Architectural	Group Mackenzie	3/7/2013	1	Bid	Full set
Structural	Group Mackenzie	3/7/2013	1	Bid	Full set
Mechanical	System Design Consultants, Inc.	3/7/2013		Bid	Full set

If you have questions, please contact:

Technical Representative:
Craig McManus
(503) 939-0928

Design Center Contact:
Karl Mueller
(503) 640-7164

Return reviewed drawings to:
Karl Mueller
550 SW Bailey Ave
Hillsboro, OR 97123

4/30/13

REGISTERED PROFESSIONAL ENGINEER
56243
OREGON
NOV. 12, 2002
HEINZ C. MUELLER

EXPIRES: 12/31/14

Material List & Calculations pp. 1-5, Drawings pp. 1-3

Our responsibility is limited to the design of RedBuilt products in accordance with the above referenced documents based on design loads specified by the engineer of record.

Architect of Record
Review of Deferred Submittal

Architect of Record has performed a general review of this deferred submittal and finds it to be:

[x] In general conformance with project design

[ ] In general conformance with project design, except as noted

Architect of Record has reviewed this deferred submittal only for general conformance with this design concept of the project and for information given in the Architect of Record's documents. Any noted nonconformities and errors are marked. Unnoted deviations from plans or specifications not clearly indicated by the contractor have not been reviewed.

The Architect of Record's review does not include engineering calculations or review of contractors' engineering calculations unless expressly noted herein. The Design of members and systems contained in this submittal is the responsibility of the professional engineer whose professional stamp appears on the submittal.

Group Mackenzie

By: Dietrich Wieland Date: 05/29/2013

Please sign and date below and check the appropriate box.

**** One set of shop drawings must be returned to the technical representative (see above for address). ****

I warrant that this RedBuilt submittal package has been provided to the contractor/installer and responsible design professional and that it has been verified and/or corrected for accuracy, including any clouded items. I also agree that all materials shall be furnished by others unless specifically noted "by RB" herein and that installation of the materials is the sole responsibility of the installer.

Please indicate your current ***requested date for product delivery:*** _____

Check One:

☐ Approved, no change*

☐ Approved, as corrected

☐ Revise & Resubmit

Company _____

Name _____

Title _____

Date _____

* If there are no changes to the approval drawings, fax this signed cover sheet to the technical representative.

RedBuilt LLC
550 SW Bailey Ave • Hillsboro OR 97123 • Mail: 550 SW Bailey Ave • Hillsboro OR 97123
Ph: (503) 648-6641 • Fx: (503) 640-2322

RedBUILT™ Engineered Wood Products

Material List

RB Number	082538	**Operator**	Karl Mueller
Project Name	Division Crossing Pad Building	**Office**	Hillsboro
Location	Portland, OR		
Delivery	D1: Roof	**Comment**	Preliminary: Not For Production
Plant	Stayton	**Status**	**Out For Approval**
Latest Revision	:	**Report Type**	Check

I-Joist Products — Joists

			Quantity	Type	Series	Depth	Length	Profile	Bevel Cut	WS Att.	Knockouts	Camber	P.E.T.		Footage	Notes	Notes
1	C	0	6	A	Red-I45	16	27'-0.00"	None					No		162.0		
1	C	0	105	A1	Red-I45	16	21'-0.00"	None					No		2205.0		
1	C	0	60	A2	Red-I45	16	20'-0.00"	None					No		1200.0		
			171	• • •	Red-I45	16	• • • • •	• • • • • • • • •	• • • • • • •	• • • • •	• • • • •	• • • • •	• • • • •	*Total*	3567.0		

I-Joist Products — Web Stiffeners

			Quantity	Type	Series	Depth	Installation	Location	Standard	Beveled	Angle	Length	Width	Bevel Cut		Notes	Notes
1	C	0	560		Red-I45	16	Loose	End	Standard	Not Beveled	0.0	10.250	3.500	0.000			

I-Joist Products — Backer Blocks

			Quantity	Type	Series	Depth	Standard	Material	Thickness	Height	Width	Install			Notes	Notes
1	C	0	4		Red-I45	16	Std	PWD/OSB	0.625	12.250	11.875	Loose				

Connectors

			Quantity	Type	Model	Top	Face	Member	Slope	Skew	Flg. Slope	Flg. Angle	Flg. Offset	NetH	Finish	Notes	Notes
1	C	0	279	1	ITS1.81/16	4-10d	2-10d	2-N10									
1	C	0	1	2	ITS1.81/16	4-N10	2-N10	2-N10									
1	C	0	2	3	U214		12-10d	8-N10									

RedLam™ Products — LVL Rim Board

			Lineal Ft	Type	Size	Grade			Footage	Notes	Notes
1	C	0	176		1.5x16	1.6E			176.0		

Hardware

Quantity	Type	Description			Notes	Notes
5.5 lb		N10 (10dx1.5) Nails				
24.0 lb		10d (10dx3) Nails				

RedSpec™ by RedBuilt™
v7.0.16

Project: 082538-DivisionCross
Location: Portland, OR
Folder: Roof
Date: 4/30/13 10:16 AM
Designer: Karl Mueller
Comment:

Type: Ahatch

16" Red-I45™ @ 24" o.c.

This product meets or exceeds the set design controls for the application and loads listed

DESIGN CONTROLS	% Allow.	Design	Allow.	DOL - Control		Pass/Fail
Shear (lb)	54%	-1316	2438	115% - All Loads		PASS
Positive Moment (ft-lb)	65%	4787	7348	115% - All Loads		PASS
DEFLECTIONS (in)	**% Allow.**	**Design**	**Allow.**	**Design**	**Allow.**	**Pass/Fail**
Span Live	33%	0.287	0.875	L / 731	L / 240	PASS
Span Total	40%	0.472	1.167	L / 445	L / 180	PASS

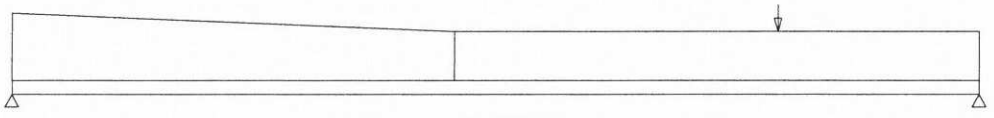
SUPPORTS	Support 1	Support 2
Live Reaction, Critical (lb) (DOL%)	634 (115)	789 (115)
Dead Reaction (lb)	358	527
Total Reaction (lb) (DOL%)	992 (115)	1316 (115)
Bearing	Bottom	Flush
Support	Wall	Beam
Req'd Bearing, No Stiffeners (in)	1.75	2.16
Req'd Bearing, Stiffeners (in)	-	1.75

HANGERS	Model	Top	Face	Member	Header	Size
Right	ITS1.81/16*	4-10dx1.5"	2-10dx1.5"	2- 10dx1.5"	Ledger LVL DF/SP	1.5x16
	(* = Web stiffeners required)					

SPANS AND LOADS

Dimensions represent horizontal design spans.

Member Slope: 0/12



17'- 6.0"

APPLICATION LOADS

Type	Units	DOL	Live	Dead	Partition	Tributary	Member Type
Uniform	psf	Snow(115%)	25	17	0	24"	Snow Roof Joist

ADDITIONAL LOADS

Type	Units	DOL	Live	Dead	Location from left	Application	Comment
Point	lb	Snow(115%)	420	290	13'-10.0"	Adds To	Hatch Header Reaction
Tapered	psf	Snow(115%)	16 to 0	0 to 0	0'-0.0" to 8'-0.0"	Adds To	End Drift

NOTES

- Building code: IBC. Methodology: Allowable Stress Design
- Continuous lateral support required at top edge. Lateral support at bottom edge shall be per RedBuilt recommendations.

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RedSpec™ by RedBuilt™
v7.0.16

Project: 082538-DivisionCross
Location: Portland, OR
Folder: Roof
Date: 4/30/13 10:14 AM
Designer: Karl Mueller
Comment:

Type: AShortHatch

16" Red-I45™ @ 24" o.c.

This product meets or exceeds the set design controls for the application and loads listed

DESIGN CONTROLS	% Allow.	Design	Allow.	DOL - Control		Pass/Fail
Shear (lb)	48%	-1171	2438	115% - All Loads		PASS
Positive Moment (ft-lb)	50%	3699	7348	115% - All Loads		PASS
DEFLECTIONS (in)	**% Allow.**	**Design**	**Allow.**	**Design**	**Allow.**	**Pass/Fail**
Span Live	21%	0.143	0.675	L / 999+	L / 240	PASS
Span Total	25%	0.228	0.900	L / 710	L / 180	PASS

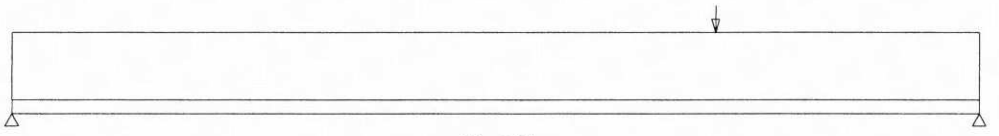
SUPPORTS	Support 1	Support 2
Live Reaction, Critical (lb) (DOL%)	538 (115)	730 (115)
Dead Reaction (lb)	308	441
Total Reaction (lb) (DOL%)	846 (115)	1171 (115)
Bearing	Bottom	Flush
Support	Wall	Beam
Req'd Bearing, No Stiffeners (in)	1.75	1.75
Req'd Bearing, Stiffeners (in)	-	1.75

HANGERS	Model	Top	Face	Member	Header	Size
Right	ITS1.81/16	4-10dx1.5"	2-10dx1.5"	2- 10dx1.5"	Ledger LVL DF/SP	1.5x16

SPANS AND LOADS

Dimensions represent horizontal design spans.

Member Slope: 0/12



13'- 6.0"

APPLICATION LOADS

Type	Units	DOL	Live	Dead	Partition	Tributary	Member Type
Uniform	psf	Snow(115%)	25	17	0	24"	Snow Roof Joist

ADDITIONAL LOADS

Type	Units	DOL	Live	Dead	Location from left	Application	Comment
Uniform	psf	Snow(115%)	6.4	0	0'-0.0" to 13'-6.0"	Adds To	Side Drift
Point	lb	Snow(115%)	420	290	9'-10.0"	Adds To	Hatch Header Reaction

NOTES

- Building code: IBC. Methodology: Allowable Stress Design
- Continuous lateral support required at top edge. Lateral support at bottom edge shall be per RedBuilt recommendations.

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4/29/13

RedSpec™ by RedBuilt™
v7.0.16

Project: 082538-DivisionCross
Location:
Folder: Roof
Date: 4/26/13 10:25 AM
Designer:
Comment:

Type: A1mu-HC

16" Red-I45™ @ 26" o.c.

This product meets or exceeds the set design controls for the application and loads listed

DESIGN CONTROLS	% Allow.	Design	Allow.	DOL - Control		Pass/Fail
Shear (lb)	49%	1202	2438	115% - All Loads		PASS
Positive Moment (ft-lb)	98%	7206	7348	115% - All Loads		PASS
DEFLECTIONS (in)	**% Allow.**	**Design**	**Allow.**	**Design**	**Allow.**	**Pass/Fail**
Span Live	38%	0.397	1.046	L / 633	L / 240	PASS
Span Total	67%	0.941	1.394	L / 267	L / 180	PASS

SUPPORTS	Support 1	Support 2
Live Reaction, Critical (lb) (DOL%)	566 (115)	566 (115)
Dead Reaction (lb)	635	635
Total Reaction (lb) (DOL%)	1202 (115)	1202 (115)
Bearing	Flush	Flush
Support	Beam	Beam
Req'd Bearing, No Stiffeners (in)	1.84	1.84
Req'd Bearing, Stiffeners (in)	1.75	1.75

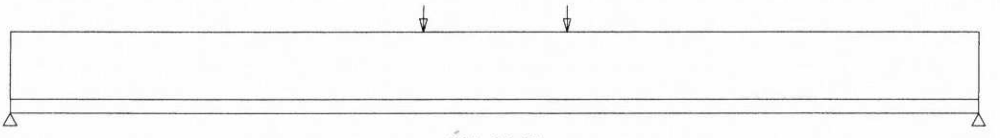
TYP
HANGER ALLOWABLES:
DOWN = 1260#
UPLIFT = -355#

HANGERS	Model	Top	Face	Member	Header	Size
Left	ITS1.81/16	4-10d	2-10d	2-10dx1.5"	Glulam DF/SP	5.125x30
Right	ITS1.81/16	4-10d	2-10d	2-	Glulam DF/SP	5.125x30

SPANS AND LOADS

Dimensions represent horizontal design spans.

Member Slope: 0/12



20'- 11.0"

APPLICATION LOADS

Type	Units	DOL	Live	Dead	Partition	Tributary	Member Type
Uniform	psf	Snow(115%)	25	17	0	26"	Snow Roof Joist

ADDITIONAL LOADS

Type	Units	DOL	Live	Dead	Location from left	Application	Comment
Point	lb	Snow(115%)	0	250	8'-11.0"	Adds To	Mech Unit Load
Point	lb	Snow(115%)	0	250	12'-0.0"	Adds To	

NOTES

- Building code: IBC. Methodology: Allowable Stress Design
- Continuous lateral support required at top edge. Lateral support at bottom edge shall be per RedBuilt recommendations.

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RedSpec™ by RedBuilt™
v7.0.16

Project: 082538-DivisionCross
Location: Portland, OR
Folder: Roof
Date: 4/30/13 10:22 AM
Designer: Karl Mueller
Comment:

Type: A1sideDrift

16" Red-I45™ @ 24" o.c.

This product meets or exceeds the set design controls for the application and loads listed

DESIGN CONTROLS	% Allow.	Design	Allow.	DOL - Control		Pass/Fail
Shear (lb)	46%	1130	2438	115% - All Loads		PASS
Positive Moment (ft-lb)	80%	5906	7348	115% - All Loads		PASS
DEFLECTIONS (in)	**% Allow.**	**Design**	**Allow.**	**Design**	**Allow.**	**Pass/Fail**
Span Live	52%	0.542	1.046	L / 463	L / 240	PASS
Span Total	57%	0.791	1.394	L / 317	L / 180	PASS

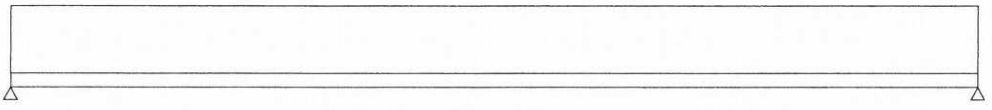
SUPPORTS	Support 1	Support 2
Live Reaction, Critical (lb) (DOL%)	774 (115)	774 (115)
Dead Reaction (lb)	356	356
Total Reaction (lb) (DOL%)	1129 (115)	1129 (115)
Bearing	Flush	Flush
Support	Beam	Beam
Req'd Bearing, No Stiffeners (in)	1.75	1.75
Req'd Bearing, Stiffeners (in)	-	-

HANGERS	Model	Top	Face	Member	Header	Size
Left	ITS1.81/16	4-10d	2-10d	2- 10dx1.5"	Glulam DF/SP	5.125x30
Right	ITS1.81/16	4-10d	2-10d	2-	Glulam DF/SP	5.125x30

SPANS AND LOADS

Dimensions represent horizontal design spans.

Member Slope: 0/12



20'- 11.0"

APPLICATION LOADS

Type	Units	DOL	Live	Dead	Partition	Tributary	Member Type
Uniform	psf	Snow(115%)	25	17	0	24"	Snow Roof Joist

ADDITIONAL LOADS

Type	Units	DOL	Live	Dead	Location from left	Application	Comment
Uniform	psf	Snow(115%)	12	0	0'-0.0" to 20'-11.0"	Adds To	Side Drift A

NOTES

- Building code: IBC. Methodology: Allowable Stress Design
- Continuous lateral support required at top edge. Lateral support at bottom edge shall be per RedBuilt recommendations.

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RedSPEC

RedSpec™ by RedBuilt™
v7.0.16

Project: 082538-DivisionCross
Location:
Folder: Roof
Date: 4/26/13 10:16 AM
Designer:
Comment:

Type: A1uplift

16" Red-I45™ @ 26" o.c.

This product meets or exceeds the set design controls for the application and loads listed

DESIGN CONTROLS	% Allow.	Design	Allow.	DOL - Control		Pass/Fail
Shear (lb)	12%	231	1908	90% - Dead Load		PASS
Positive Moment (ft-lb)	21%	1209	5751	90% - Dead Load		PASS
Negative Moment (ft-lb)	11%	-1102	10224	160% - All Loads		PASS
DEFLECTIONS (in)	**% Allow.**	**Design**	**Allow.**	**Design**	**Allow.**	**Pass/Fail**
Span Live	30%	-0.309	-1.046	L / 811	L / 240	PASS
Span Total	12%	0.162	1.394	L / 999+	L / 180	PASS

SUPPORTS	Support 1	Support 2
Live Reaction, Critical (lb) (DOL%)	0	0
Dead Reaction (lb)	231	231
Total Reaction (lb) (DOL%)	231 (90)	231 (90)
Net Uplift Reaction (lb) (DOL%)	-211 (160)	-211 (160)
Bearing	Flush	Flush
Support	Beam	Beam
Req'd Bearing, No Stiffeners (in)	1.75	1.75
Req'd Bearing, Stiffeners (in)	-	-

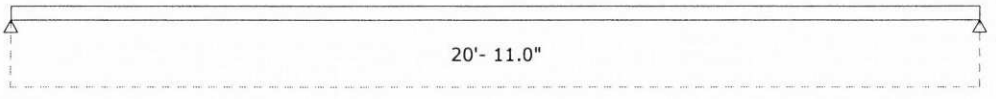
HANGERS	Model	Top	Face	Member	Header	Size
Left	ITS1.81/16*	4-10d	2-10d	2-10dx1.5"	Glulam DF/SP	5.125x30
Right	ITS1.81/16*	4-10d	2-10d	2-10dx1.5"	Glulam DF/SP	5.125x30

(* = Web stiffeners required)

SPANS AND LOADS

Dimensions represent horizontal design spans.

Member Slope: 0/12



APPLICATION LOADS

Type	Units	DOL	Live	Dead	Partition	Tributary	Member Type
Uniform	psf	Snow(115%)	25	17	0	26"	Snow Roof Joist

ADDITIONAL LOADS

Type	Units	DOL	Live	Dead	Location from left	Application	Comment
Uniform	psf	Wind(160%)	-19.5	10.2	0'-0.0" to 20'-11.0"	Replaces	Net Design Wind Pressure

NOTES

- Building code: IBC. Methodology: Allowable Stress Design
- Continuous lateral support required at top edge. Lateral support at bottom edge shall be per RedBuilt recommendations.
- Net uplift over 200 lb detected.

C:\Documents and Settings\Kmueller\Desktop\082538 Division Crossing Pad Building\Design\082538-Designs.red

RedSpec™ by RedBuilt™
v7.0.16

Project: 082538-DivisionCross
Location: Portland, OR
Folder: Roof
Date: 4/30/13 10:20 AM
Designer: Karl Mueller
Comment:

Type: A2mu

16" Red-I45™ @ 26" o.c.

This product meets or exceeds the set design controls for the application and loads listed

DESIGN CONTROLS	% Allow.	Design	Allow.	DOL - Control		Pass/Fail
Shear (lb)	52%	1265	2438	115% - All Loads		PASS
Positive Moment (ft-lb)	92%	6757	7348	115% - All Loads		PASS
DEFLECTIONS (in)	**% Allow.**	**Design**	**Allow.**	**Design**	**Allow.**	**Pass/Fail**
Span Live	35%	0.347	0.992	L / 687	L / 240	PASS
Span Total	61%	0.802	1.322	L / 297	L / 180	PASS

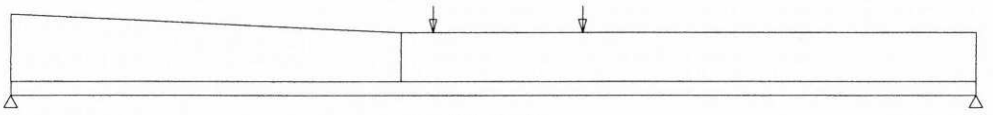
SUPPORTS	Support 1	Support 2
Live Reaction, Critical (lb) (DOL%)	657 (115)	556 (115)
Dead Reaction (lb)	608	623
Total Reaction (lb) (DOL%)	1265 (115)	1178 (115)
Bearing	Bottom	Flush
Support	Wall	Beam
Req'd Bearing, No Stiffeners (in)	2.02	1.78
Req'd Bearing, Stiffeners (in)	1.75	1.75

HANGERS	Model	Top	Face	Member	Header	Size
Right	ITS1.81/16	4-10d	2-10d	2- 10dx1.5"	Glulam DF/SP	5.125x30

SPANS AND LOADS

Dimensions represent horizontal design spans.

Member Slope: 0/12



19'- 10.0"

APPLICATION LOADS

Type	Units	DOL	Live	Dead	Partition	Tributary	Member Type
Uniform	psf	Snow(115%)	25	17	0	26"	Snow Roof Joist

ADDITIONAL LOADS

Type	Units	DOL	Live	Dead	Location from left	Application	Comment
Point	lb	Snow(115%)	0	250	8'-8.0"	Adds To	Mech Unit
Point	lb	Snow(115%)	0	250	11'-9.0"	Adds To	Mech Unit
Tapered	psf	Snow(115%)	16 to 0	0 to 0	0'-0.0" to 8'-0.0"	Adds To	End Drift

NOTES

- Building code: IBC. Methodology: Allowable Stress Design
- Continuous lateral support required at top edge. Lateral support at bottom edge shall be per RedBuilt recommendations.

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RedSpec™ by RedBuilt™
v7.0.16

Project: 082538-DivisionCross
Location: Portland, OR
Folder: Roof
Date: 4/30/13 10:17 AM
Designer: Karl Mueller
Comment:

Type: A2

16" Red-I45™ @ 24" o.c.

This product meets or exceeds the set design controls for the application and loads listed

DESIGN CONTROLS	% Allow.	Design	Allow.	DOL - Control		Pass/Fail
Shear (lb)	44%	1071	2438	115% - All Loads		PASS
Positive Moment (ft-lb)	72%	5310	7348	115% - All Loads		PASS
DEFLECTIONS (in)	**% Allow.**	**Design**	**Allow.**	**Design**	**Allow.**	**Pass/Fail**
Span Live	45%	0.443	0.992	L / 537	L / 240	PASS
Span Total	49%	0.647	1.322	L / 368	L / 180	PASS

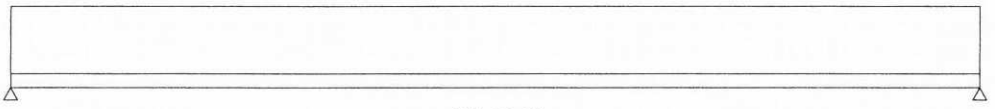
SUPPORTS	Support 1	Support 2
Live Reaction, Critical (lb) (DOL%)	734 (115)	734 (115)
Dead Reaction (lb)	337	337
Total Reaction (lb) (DOL%)	1071 (115)	1071 (115)
Bearing	Bottom	Flush
Support	Wall	Beam
Req'd Bearing, No Stiffeners (in)	1.75	1.75
Req'd Bearing, Stiffeners (in)	-	-

HANGERS	Model	Top	Face	Member	Header	Size
Right	ITS1.81/16	4-10d	2-10d	2- 10dx1.5"	Glulam DF/SP	5.125x30

SPANS AND LOADS

Dimensions represent horizontal design spans.

Member Slope: 0/12



19'- 10.0"

APPLICATION LOADS

Type	Units	DOL	Live	Dead	Partition	Tributary	Member Type
Uniform	psf	Snow(115%)	25	17	0	24"	Snow Roof Joist

ADDITIONAL LOADS

Type	Units	DOL	Live	Dead	Location from left	Application	Comment
Uniform	psf	Snow(115%)	12	0	0'-0.0" to 19'-10.0"	Adds To	Side Drift A

NOTES

- Building code: IBC. Methodology: Allowable Stress Design
- Continuous lateral support required at top edge. Lateral support at bottom edge shall be per RedBuilt recommendations.

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I-JOIST INSTALLATION INFORMATION

ATTENTION BUILDER

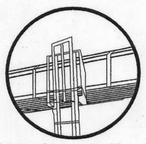
Enclosed is IMPORTANT information on how to safely and properly install RedBuilt™ Joists. Personal injury or death may result from failure to read and follow this information.

RedBUILT™ Engineered Wood Products

12-20984-DTS-0-CO 2

1 PRODUCT HANDLING

THIS



Lift joists from underside only.
DO NOT dump or drop from truck.

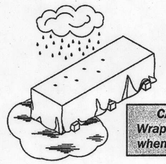
NOT THIS

DO NOT lift joists by top flange

DO NOT lift joists in the flat orientation

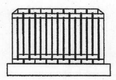
2 PRODUCT STORAGE

THIS



CAUTION
Wrap is slippery when wet or icy.

- Protect products from sun and water.
- Use support blocks at 10' on-center to keep products out of mud and water.



Store and handle joists in vertical orientation. Leave joists banded together until ready to install.

NOT THIS

DO NOT store joists in the flat orientation

WARNING
Workers should stay clear when cutting the banding to avoid possible injury from flying banding or toppling joists.

3 GENERAL INFORMATION

- All nails specified in framing package to be "common" nails unless noted otherwise.
- All joists not marked "Precision End Trim" (PET) on the material list may be sent up to 2'-0" longer than the length indicated on the material list.
- Do not scale drawings: written dimensions take precedence.
- Manufacturer's responsibility is only for the design of the RedBuilt™ products and not for any supporting structure or loads other than indicated herein. All materials shall be supplied by others, unless specifically noted as "by RB" or "by RedBuilt™" herein.

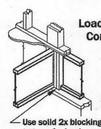
Abbreviation	Term
AFP	Approved for Production
AOR	Architect of Record
CL	Centerline
DBL	Double
DL	Dead Load
EOR	Engineer of Record
FBO	Framing by Others
FOC	Face of Concrete
FOS	Face of Stud
GC	General Contractor
LL	Live Load
LSL	Laminated Strand Lumber
LVL	Laminated Veneer Lumber
OFA	Out for Approval
OW	Open-Web Trusses by RedBuilt™
PLT	Plate
PSL	Parallel Stranded Lumber
RB	RedBuilt™

4 WEB STIFFENER REQUIREMENTS

- *Web stiffener requirements vary based on joist series and depth; they are always required at bearing on joists 20" in depth or greater.*
- *See plan/details for requirements specific to the joists being used on this project.*
- *If web stiffeners are required at hanger locations, they must be attached before placing joist in hanger.*

Web Stiffener Size and Material

Flange Width	Web Stiffener Size	Web Stiffener Material
1¾"	⅝"x2⅝16"	Sheathing (with face grain vertical) that meets the requirements of PS1 or PS2
2½"	1"x2⅝16"	
3½"	2x4	Construction grade or better Red-I90HS™ Joists require LVL/LSL

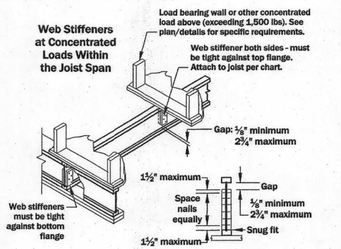


Load Transfer at Concentrated Loads

Use solid 2x blocking under post to transfer load around joist. Cut blocks ⅜" longer than joist depth.

Nailing Quantities for Web Stiffener Attachment

I-Joist Depth	Red-I45™ Joists	Red-I65™ Joists	Red-I90™ & Red-I90HS™ Joists		Red-I90HS™ Joists
	8d (2½") Nails	8d (2½") Nails	16d (3½") Nails		16d (3½") Nails
	End or Intermediate	End or Intermediate	End	Intermediate	End or Intermediate
9½"	3	N/A	N/A	N/A	N/A
11⅞"	3	3	3	3	4
14"	3	5	3	3	6
16"	3	6	4	4	6
18"	3	7	4	4	8
20"	3	8	5	5	10
22"	N/A	9	6	11	10
24"	N/A	10	6	13	12
26"	N/A	11	7	14	14
28"	N/A	12	8	15	14
30"	N/A	13	8	17	16
32"	N/A	N/A	9	18	18



Web Stiffeners at Concentrated Loads Within the Joist Span

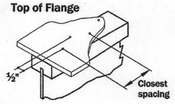
Web Stiffeners at Bearing Points

5 FLANGE AND BEAM NAILING

Nailing pattern to be per contract drawings and specifications. In addition, nail spacing shall comply with the criteria listed.

IMPORTANT
Nailing closer than specified may cause the flange to split.

Top of Flange



Nailing of sheathing

Nail Type	Nail Size	Closest On-Center Spacing Per Row(1)	
		I-Joist Flange(2)	RedLam™ LVL Narrow Face
8d(3)	.113" x 2½"	2"	3"
	.131" x 2½"	2"	3"
10d	.128" x 3"	2"	3"
	.148" x 3"	3"	4"(4)
12d	.128" x 3¼"	2"	3"
	.148" x 3¼"	3"	4"(4)
16d	.135" x 3½"	3"	4"
	.148" x 3½"	3"	4"(4)
	.162" x 3½"	4"	8"(5)

(1) If more than one row of nails is used, offset rows at least ½" and stagger. Maintain ⅜" minimum edge distance.
(2) Sheathing must be nailed to the full length of the top (or compression) flange on the I-joist with the maximum nail spacing as follows:
- 18" OC for I-joists with flange widths less than 2".
- 24" OC for I-joists with flange widths greater than 2".

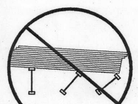
(3) 14-gauge staples may be a direct substitute for 8d (2½") nails if a minimum penetration of 1" into the flange is maintained.
(4) Minimum spacing must be 5" for 4 rows of nails.
(5) Spacing may be reduced to 5" where nail penetration does not exceed 1⅜".

6 INSTALLATION BRACING

DO NOT walk on the joists until all joist bearings and bracing have been permanently attached. Injury may result.

WARNING
Without correctly installed bracing, joists can buckle sideways or roll over, causing death, serious personal injury, or property damage.

NOTICE
Installation bracing and procedures, as well as the safety of workers, are the responsibility of the installer. The installer should make sure that this installation information is understood by all persons involved in the joist installation.



DO NOT stack building materials on unsheathed joists. Stack only over beams or walls.

IMPORTANT
Strut lines must extend to braced end wall, beam or sheathing.

Strut lines (1x4 minimum)
- 6' on-center for joists with 1¾" wide flanges
- 8' on-center for joists with 2½" wide flanges
- 10' on-center for joists with 3½" wide flanges

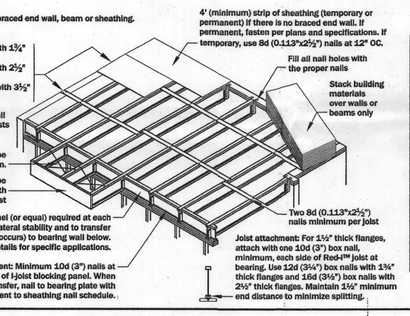
Strut lines are required at all bearing locations where joists are not otherwise braced.

Cantilever bracing may be required. See plan.

Ends of cantilevers must be laterally stabilized with blocking, bracing or rim joist

I-joist blocking panel (or equal) required at each side of I-joist for lateral stability and to transfer wall load above (as occurs) to bearing wall below. See plan/details for specific applications.

Blocking attachment: Minimum 10d (3") nails at 12" OC each side of I-joist blocking panel. When used for shear transfer, nail to bearing plate with connections equivalent to sheathing nail schedule.

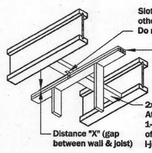


Joist attachment: For 1½" thick flanges, attach with one 10d (3") box nail, minimum, each side of Red-I™ joist at bearing. Use 12d (3¼") box nails with 1¾" thick flanges and 16d (3½") box nails with 2½" thick flanges. Maintain 1½" minimum end distance to minimize splitting.

WARNING

- *All blocking, hangers, rim boards, and rim joists at the end supports of the I-joists must be completely installed and properly nailed.*
- *I-joist flanges must remain straight within ½" from true alignment.*
- *Sheathing must be completely attached to each I-joist before additional loads can be placed on the system.*
- *Without bracing, buckling sideways or rollover is highly probable under light construction loads like a worker or stacked sheathing.*

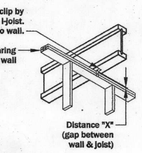
7 STANDARD INSTALLATION DETAILS

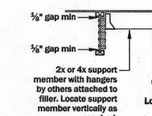


Spacing of clips and blocks per EOR

Distance "X"			
Under Roof		Under Floor	
Span	"X"	Span	"X"
0'-20'	1½"	0'-20'	¾"
20'-40'	2½"	20'-40'	1½"
40'-60'	4"	40'-60'	2"

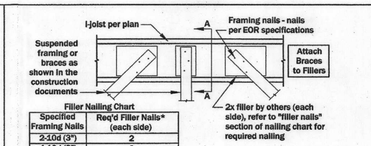
Recommended Attachment for Non-load Bearing Partitions





Note: Use this detail for loads exceeding 250 lbs. per I-joist. A 250 lb. load can be supported on each side of the joist's bottom flange at 5'-0" on center, provided the load is included in normal design loads.

Support Detail for Loads Supported from I-joist



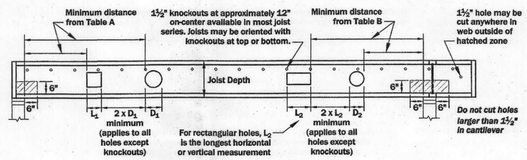
Filler Nailing Chart

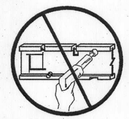
Specified Framing Nails	Req'd Filler Nails* (each side)
2-10d (3")	2
4-10d (3")	3
6-10d (3")	5
2-16d (3½")	2
4-16d (3½")	3
6-16d (3½")	5

* Filler nails shall be 16d sinker or 12d common (0.148"Ø, 3¼" long)

Suspended Framing from I-joists

8 ALLOWABLE HOLES





DO NOT cut, drill, or notch flanges

Table A - End Support
Minimum distance from edge of hole to inside face of nearest end support

Joist Depth	Joist Series	Round Hole Size									
		2"	4"	6"	8"	10"	12"	14"	16"	18"	20"
		Square or Rectangular Hole Size									
		1.25"	2.5"	4"	5"	6"	7"	8.5"	9.5"	10.5"	13"
9½"	I45 / I65	1'-6"	3'-0"	5'-0"	-	-	-	-	-	-	-
	I90	2'-0"	3'-6"	5'-6"	-	-	-	-	-	-	-
11⅞"	I45 / I65	1'-6"	2'-6"	4'-0"	5'-6"	-	-	-	-	-	-
	I90 / I90H	1'-6"	3'-6"	5'-6"	7'-0"	-	-	-	-	-	-
	I90HS	2'-0"	4'-0"	6'-6"	-	-	-	-	-	-	-
14"	I45 / I65	1'-0"	2'-0"	3'-6"	4'-6"	6'-6"	-	-	-	-	-
	I90 / I90H	1'-0"	3'-0"	5'-0"	6'-6"	9'-0"	-	-	-	-	-
	I90HS	2'-0"	4'-0"	6'-0"	8'-0"	-	-	-	-	-	-
16"	I45 / I65	1'-0"	1'-6"	3'-0"	4'-0"	5'-0"	8'-0"	-	-	-	-
	I90 / I90H	1'-0"	2'-0"	4'-0"	6'-0"	8'-6"	10'-6"	-	-	-	-
	I90HS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	-	-	-	-	-
18"	I45 / I65	1'-0"	1'-0"	2'-6"	3'-6"	4'-6"	7'-0"	9'-0"	-	-	-
	I90 / I90H	1'-0"	1'-0"	2'-6"	5'-0"	7'-0"	9'-6"	12'-6"	-	-	-
	I90HS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"	-	-	-	-
20"	I45 / I65	1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	7'-0"	10'-6"	-	-
	I90 / I90H	1'-0"	1'-0"	2'-0"	4'-0"	6'-0"	8'-0"	11'-0"	14'-0"	-	-
	I90HS	2'-0"	4'-0"	6'-0"	8'-0"	9'-6"	11'-6"	14'-0"	-	-	-
22"	I65	1'-0"	1'-0"	2'-0"	2'-6"	3'-6"	4'-6"	5'-6"	7'-6"	11'-6"	-
	I90 / I90H	1'-0"	1'-0"	1'-0"	3'-0"	5'-0"	7'-0"	9'-0"	12'-6"	16'-0"	-
	I90HS	2'-0"	4'-0"	6'-0"	8'-0"	9'-6"	11'-6"	13'-6"	16'-0"	-	-
24" to 26"	I65	1'-0"	1'-6"	2'-6"	3'-6"	4'-0"	5'-0"	6'-0"	7'-6"	10'-0"	-
	I90 / I90H	1'-0"	1'-0"	2'-0"	3'-6"	5'-0"	6'-6"	8'-6"	10'-6"	14'-6"	18'-6"
	I90HS	2'-0"	4'-0"	6'-0"	7'-6"	9'-6"	11'-6"	13'-6"	15'-0"	18'-0"	-
28" to 32"	I65	1'-0"	2'-0"	2'-6"	3'-6"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	10'-6"
	I90 / I90H	1'-0"	1'-6"	2'-6"	4'-0"	5'-6"	6'-6"	8'-0"	9'-6"	11'-6"	14'-6"
	I90HS	2'-0"	3'-6"	5'-0"	7'-0"	8'-6"	10'-0"	12'-0"	13'-6"	16'-0"	18'-6"

Table B - Intermediate or Cantilever Support
Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

Joist Depth	Joist Series	Round Hole Size									
		2"	4"	6"	8"	10"	12"	14"	16"	18"	20"
		Square or Rectangular Hole Size									
		1.25"	2.5"	4"	5"	6"	7"	8.5"	9.5"	10.5"	13"
9½"	I45 / I65	1'-6"	4'-0"	6'-6"	-	-	-	-	-	-	-
	I90	3'-0"	5'-6"	8'-0"	-	-	-	-	-	-	-
11⅞"	I45 / I65	1'-0"	2'-0"	4'-6"	7'-0"	-	-	-	-	-	-
	I90 / I90H	2'-0"	4'-6"	7'-6"	10'-0"	-	-	-	-	-	-
	I90HS	3'-6"	6'-0"	9'-0"	-	-	-	-	-	-	-
14"	I45 / I65	1'-0"	1'-0"	3'-6"	5'-6"	8'-6"	-	-	-	-	-
	I90 / I90H	1'-0"	3'-6"	6'-0"	9'-0"	12'-6"	-	-	-	-	-
	I90HS	4'-0"	6'-6"	9'-0"	11'-6"	-	-	-	-	-	-
16"	I45 / I65	1'-0"	1'-0"	2'-0"	4'-0"	6'-6"	10'-0"	-	-	-	-
	I90 / I90H	1'-0"	1'-6"	4'-6"	8'-0"	11'-0"	14'-6"	-	-	-	-
	I90HS	3'-0"	6'-0"	8'-6"	11'-6"	14'-0"	-	-	-	-	-
18"	I45 / I65	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	8'-0"	12'-0"	-	-	-
	I90 / I90H	1'-0"	1'-0"	2'-6"	5'-6"	9'-0"	12'-6"	17'-0"	-	-	-
	I90HS	2'-6"	5'-6"	8'-0"	11'-0"	13'-6"	16'-6"	-	-	-	-
20"	I45 / I65	1'-0"	1'-0"	1'-0"	1'-0"	3'-6"	6'-0"	9'-0"	13'-6"	-	-
	I90 / I90H	1'-0"	1'-0"	1'-0"	3'-6"	7'-0"	10'-6"	14'-6"	19'-6"	-	-
	I90HS	2'-0"	5'-0"	7'-6"	10'-6"	13'-6"	16'-0"	19'-6"	-	-	-
22"	I65	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	4'-6"	7'-0"	10'-0"	15'-0"	-
	I90 / I90H	1'-0"	1'-0"	1'-6"	4'-0"	6'-6"	9'-6"	12'-0"	16'-0"	-	-
	I90HS	1'-0"	3'-0"	6'-0"	9'-0"	12'-6"	15'-6"	18'-6"	22'-0"	-	-
24" to 26"	I65	1'-0"	1'-0"	1'-6"	3'-0"	4'-6"	6'-0"	7'-6"	10'-0"	15'-0"	-
	I90 / I90H	1'-0"	1'-0"	1'-0"	3'-6"	7'-0"	10'-6"	14'-6"	19'-6"	-	-
	I90HS	1'-6"	4'-0"	6'-6"	9'-0"	11'-6"	14'-0"	17'-0"	20'-0"	23'-6"	-
28" to 32"	I65	1'-0"	1'-0"	1'-6"	3'-0"	4'-6"	6'-0"	7'-6"	9'-0"	11'-0"	15'-6"
	I90 / I90H	1'-0"	3'-0"	4'-6"	6'-0"	7'-6"	9'-0"	11'-0"	12'-6"	15'-6"	18'-6"
	I90HS	1'-0"	2'-6"	4'-6"	7'-0"	9'-6"	12'-0"	14'-6"	17'-0"	19'-6"	21'-6"

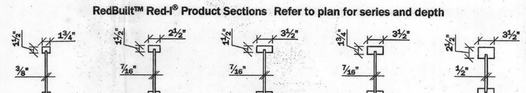
General Notes

- Tables are based on maximum allowable uniform loads. *Bold Italic* cells indicate 2000 lb. concentrated load spread over two joists has not been considered, use RedSpec™ software or contact your RedBuilt™ technical representative if concentrated load check is required.
- For other hole sizes, hole locations, or loads, use RedSpec™ software or contact your RedBuilt™ technical representative
- Holes may be located vertically anywhere in the web. Leave ⅛" of web (minimum) at top and bottom of hole. DO NOT cut joist flanges.
- Knockouts are located in web at approximately 12" on-center; they do not affect hole placement.
- Do not cut holes in cantilever without consulting your RedBuilt™ representative.

How to use Tables A and B

1. Determine the hole shape and size. For rectangular holes, use the largest dimension of the rectangle. Sizes given in the table are hole sizes, not duct sizes.
2. Determine the Red-I™ joist series and depth.
3. Determine the type of support on each side of the hole. If the Red-I™ joist is continuous over a support, use both tables. Use Table A if the joist terminates at both supports.
4. Find the table cell at the intersection of the Red-I™ joist and the hole.
5. The measurement shown is the minimum distance from the edge of the hole to the inside face of the support.
6. Maintain the minimum required distance from both supports.
7. It is permissible to interpolate between hole sizes shown in the tables.

RedBuilt™ Red-I® Product Sections Refer to plan for series and depth



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JUN 10 2013
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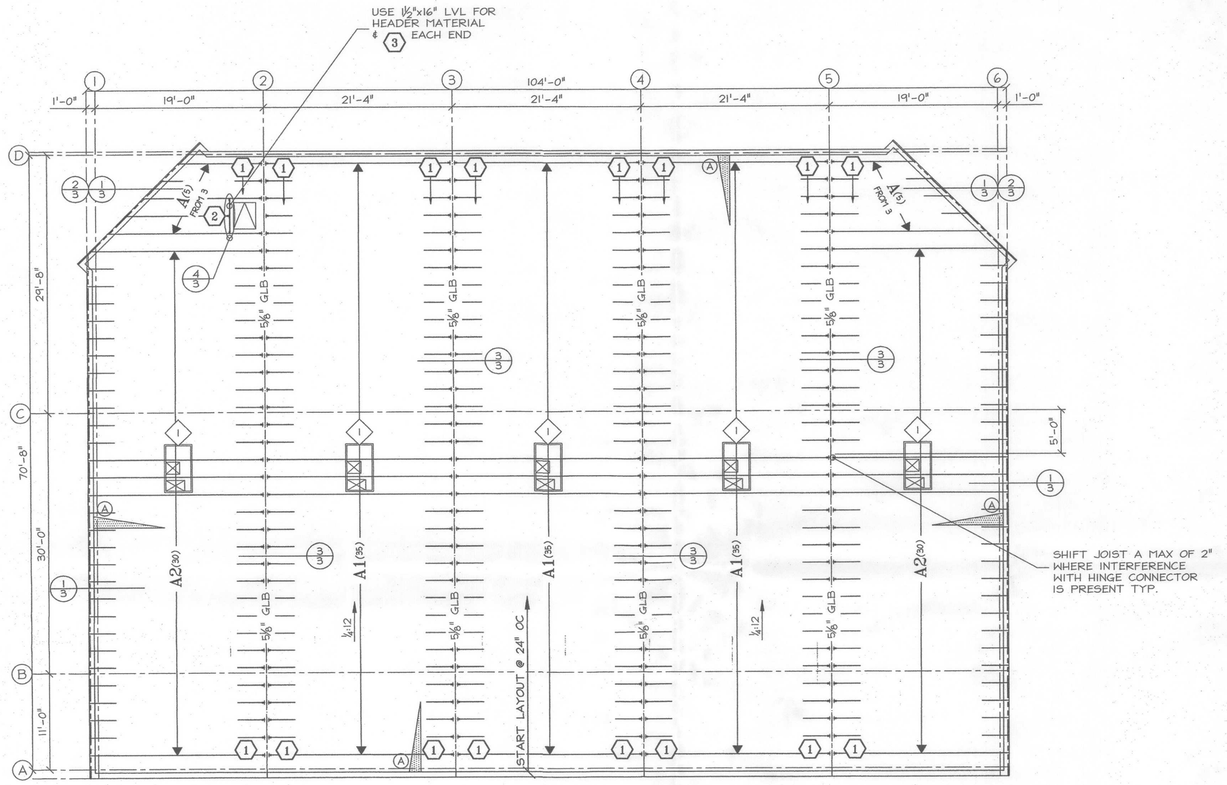
If you have questions or concerns:
Call your RedBuilt™ Representative directly, or for general customer service call
(866) 859-6757

DIVISION CROSSING PAD BLDG
RB#: 082538



ROOF FRAMING LOCATION PLAN

SCALE ⅛"=1'-0"

PRODUCT TYPE CHART	
SEE MATERIAL LIST FOR MORE INFORMATION	
CALLOUT	MEMBER
A	16" RED-145 JOIST

Red-I™ Joists

Quantity	Type	Depth	Series	Cut Length	Profile	Note
6	A	16	Red-145	27'-0"	-	-
105	A1	16	Red-145	21'-0"	-	-
60	A2	16	Red-145	20'-0"	-	-

Hangers

Quantity	Type	Model	Nailing			Modifications	Finish	Web Stiffeners Required	Note
			Top	Face	Member				
279	1	ITS1.81/16	4-10d	2-10d	2-N10		-	✓	-
1	2	ITS1.81/16	4-N10	2-N10	2-N10		-	✓	-
2	3	U214	-	12-10d	8-N10		-		-

Architect of Record
Review of Deferred Submittal

Architect of Record has performed a general review of this deferred submittal and finds it to be:

[x] In general conformance with project design

[ ] In general conformance with project design, except as noted

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Group Mackenzie

By: Dietrich Wieland Date: 05/29/2013

GENERAL NOTES & LEGEND

DESIGN CONSIDERATIONS

BUILDING CODE: 2010 OSSC

ROOF DESIGN
SNOW LIVE LOAD (@ 115%): 25 PSF
DEAD LOAD: 17 PSF

NET DESIGN WIND PRESSURE (@ 160%): -19.5 PSF

ADDITIONAL LOADING

DRIFT
#
LENGTH

- DENOTES SNOW DRIFT PER STRUCTURAL DRAWINGS

SNOW DRIFT INFORMATION		
SNOW DRIFT	DRIFT MAGNITUDE	LENGTH OF DRIFT
A	16 to 0 PSF	8'-0"

#

- DENOTES LOCATION & INFORMATION OF MECH UNITS IN REF. WITH CONSTRUCTION DOCUMENTS.

MECHANICAL INFORMATION		
MECH UNIT	WEIGHT (MAX)	# OF MEMBERS
1	1000#	OVER (2)

DRAWING NOTES & LEGEND

- FOR TYPICAL NOTES, STANDARD DETAILS, AND ABBREVIATIONS, SEE INSTALLATION COVERSHEET(S).

XX(##)

- DENOTES PRODUCT CALLOUT AND QUANTITY ON PLAN.
"XX" - STRUCTURAL MEMBER TYPE CALLOUT
"##" - QUANTITY OF STRUCTURAL MEMBERS IN BAY

I-JOIST NOTES & LEGEND

- ALL I-JOISTS WILL BE SENT LONG TO BE FIELD TRIMMED UNLESS MARKED "PET" ON MATERIAL LIST.

#

- DENOTES CONTINUOUS HANGER TYPE. SEE HANGER INFO.

PROJECT ASSUMPTIONS
- ALL MISCELLANEOUS ITEMS (SPRINKLER LINES, SOFFITS, ELECTRICAL CONDUITS, ETC.) ARE ASSUMED TO BE INCLUDED IN THE UNIFORM DESIGN DEAD LOAD, UNLESS SPECIFICALLY SHOWN OTHERWISE ON THESE SHOP DRAWINGS.
- ALL OPENINGS (DUCTWORK, PLUMBING, ETC.) ARE ASSUMED TO FIT BETWEEN REGULAR ON-CENTER SPACING AS SHOWN, UNLESS SPECIFICALLY SHOWN OTHERWISE ON THESE SHOP DRAWINGS.

CONTRACTOR/ENGINEER OF RECORD - PLEASE VERIFY THESE ASSUMPTIONS ARE ACCEPTABLE, OR CORRECT AS NEEDED. IF NO CORRECTIONS ARE MADE TO ASSUMPTIONS, RB WILL MANUFACTURE PRODUCT WITH THE INFORMATION SHOWN ON THESE SHOP DRAWINGS.

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NOT FOR CONSTRUCTION

RECEIVED
MAY 30 2013
BDS
DOCUMENT SERVICES

REGISTERED PROFESSIONAL ENGINEER
OREGON
NOV. 12, 2002
HEINE C. MUELLER
EXPIRES: 12/31/14
4/30/13

BY	DATE	REMARKS

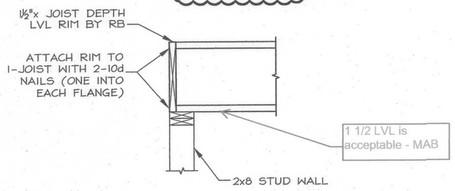
RedBUILT. Engineered Wood Products

Division Crossing Pad Bldg
Portland, OR
Roof

DRAWN	DATE	CHECKED	DATE	ORDER #	SHEET
KBM	4/29/13		4/30/13	082538	2 OF 3

THINK SAFETY - READ INSTALLATION INFORMATION BEFORE PROCEEDING

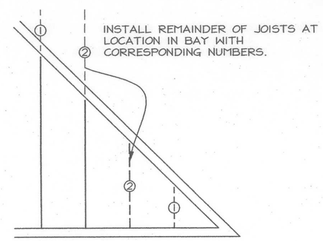
PLEASE ADVISE IF USING 1⅛" LVL IN LIEU OF 1¾" LSL IS ACCEPTABLE



1/3

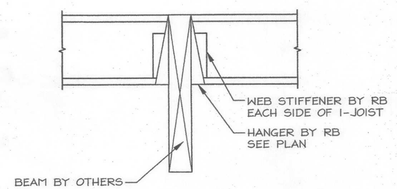
REF. 8/S8.1

NOTE: I-JOISTS SENT LONG. CONTRACTOR TO CUT JOIST TO LENGTH AND USE EXCESS TO FRAME SHORT END OF BAY.



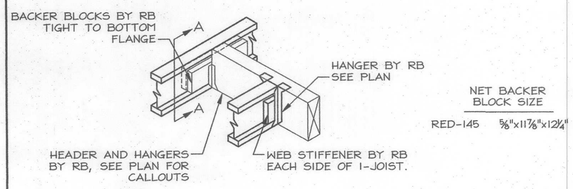
ANGLE BAY JOIST PLACEMENT EXAMPLE

2/3

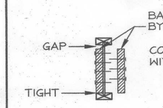


3/3

REF. 12/S8.1



NET BACKER BLOCK SIZE	
RED-145	⅝"x11⅞"x12¼"



SECTION A-A

HEADER CONDITION AT ROOF HATCH

4/3

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By: Dietrich Wieland Date: 05/29/2013

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- STRAPS, ANCHORS, CLIPS, AND OTHER HARDWARE NOT SHOWN ARE TO BE PROVIDED BY OTHERS. HARDWARE SHOWN IS TO BE PROVIDED BY OTHERS UNLESS MARKED 'BY RB.' REFER TO THE CONTRACT DOCUMENTS FOR HARDWARE SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
- SEE I-JOIST INSTALLATION SHEET FOR WEB STIFFENER NAILING.
- FOR BEAMS SUPPLIED BY OTHERS, SEE CONTRACT DOCUMENTS FOR SPECIFICATIONS AND OTHER INFORMATION NOT SHOWN HEREIN.
- FOR ATTACHMENT OF SPRINKLER LINES, MECHANICAL DUCTS, ETC... TO JOISTS OR TRUSSES, PLEASE SEE "SPRINKLER SYSTEM INSTALLATION GUIDELINES". IF ADDITIONAL COPIES ARE REQUIRED, PLEASE CONTACT REDBUILT OR GO ONLINE TO: HTTP://WWW.REDBUILT.COM

REGISTERED PROFESSIONAL ENGINEER
95895
OREGON
NOV. 12, 2009
HEINZ C. MUELLER
EXPIRES: 12/31/14
4/29/13

	BY	DATE	REMARKS
4			
3			
2			
1			

RedBUILT Engineered Wood Products

Division Crossing Pad Bldg
Portland, OR
Details

DRAWN	DATE	CHECKED	DATE	ORDER #	SHEET
KBM	4/29/13	HC	4/29/13	082538	3 OF 3

THINK SAFETY - READ INSTALLATION INFORMATION BEFORE PROCEEDING