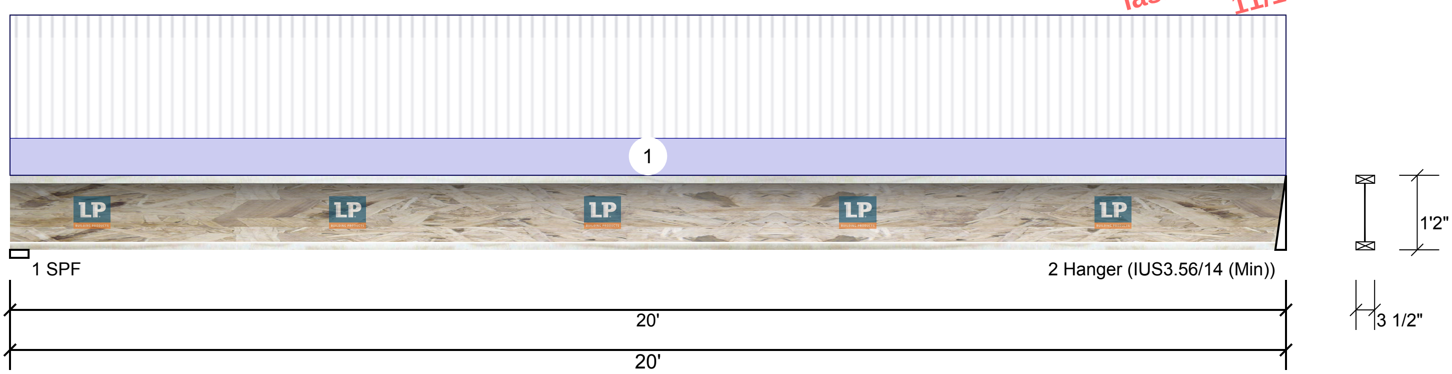
LP SOLIDSTART® DESIGN SOFTWARE

Client:	Rachel Roupe - Envision Northwest	Date:	7/16/2019
Project:	DUPLEX 1880-1620A	Designer:	DAYTON CROYDON
Address:		Job Name:	DUPLEX 1880-1620A
		Project #:	IWP24793

J2-20 THIRD LEVEL LPI 56 14.000" - PASSED

Level: Level

Reviewed for code compliance with IRC 2015
Kitsap County Building Department
lasmith@co.kitsap.wa.us
11/16/2020



Member Information

Type:	Joist	Application:	Floor
Spacing:	24" o.c.	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	23/32 APA Rated Sturd-I-FloorOSB Nailed and Glued
Importance:	Normal	Vibration:	OK
Temperature:	Temp <= 100°F	Vibration Span:	20-5-2 (96%)

Reactions PATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	805	242	0	0	0
2	795	239	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	72%	242 / 805	1047	L	D+L
2 - Hanger	2.000"	85%	239 / 795	1034	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5028 ft-lb	10' 3/4"	12250 ft-lb	0.410 (41%)	D+L	L
Shear	1023 lb	19'10 3/4"	2330 lb	0.439 (44%)	D+L	L
LL Defl inch	0.286 (L/826)	10' 13/16"	0.492 (L/480)	0.580 (58%)	L	L
TL Defl inch	0.372 (L/635)	10' 13/16"	0.983 (L/240)	0.380 (38%)	D+L	L
LL Bare Defl	0.326 (L/723)	10' 13/16"	0.656 (L/360)	0.500 (50%)	L	40 PSF L

BASIC PERMIT PACKAGE
REVIEWED FOR CODE COMPLIANCE
WITH IRC 2015
KITSAP COUNTY BUILDING
DEPARTMENT

Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.086", Long Term = 0.129"
3 Fill all hanger nailing holes.
4 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		2-0-0	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Established Basic Permit #
19-03671

This design is valid until 10/31/2020

Manufacturer Info

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L238, ICC-ES: ESR-1305, LADBS: RR-25099, Florida: FL15401

INTERNATION WOOD PRODUCTS
14421 SE 98TH CT. , OREGON
USA
97015
503-650-9663

Clackamas EWP Department
IWP
Building a reputation... not resting on one.

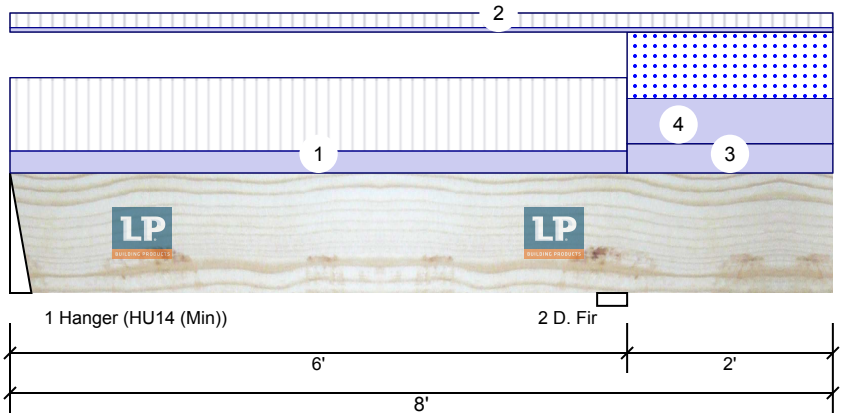
Permit Number: 20-04899

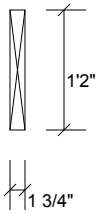
LP SolidStart® DESIGN SOFTWARE

Client:	Rachel Roupe - Envision Northwest	Date:	7/16/2019
Project:	DUPLEX 1880-1620A	Designer:	DAYTON CROYDON
Address:		Job Name:	DUPLEX 1880-1620A
		Project #:	IWP24793

LSL3-8 THIRD LEVEL LP-LVL 2900Fb-2.0E 1.750" X 14.000" - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions PATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	720	159	0 (-64)	0	0
2	814	759	426	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.500"	27%	159 / 720	879	L_	D+L
2 - D. Fir	3.500"	44%	759 / 930	1689	LL	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-807 ft-lb	6'	15542 ft-lb	0.052 (5%)	D+S	_L
Pos Moment	1087 ft-lb	2'9 1/16"	13514 ft-lb	0.080 (8%)	D+L	L_
Shear	630 lb	4'8 1/4"	4655 lb	0.135 (14%)	D+L	LL
LL Defl inch	0.012 (L/5825)	3'	0.143 (L/480)	0.080 (8%)	L	L_
TL Defl inch	0.014 (L/5006)	2'11 1/4"	0.285 (L/240)	0.050 (5%)	D+L	L_
LL Cant	-0.008 (2L/5976)	Rt Cant	0.200 (2L/480)	0.040 (4%)	L	L_
TL Cant	0.011 (2L/4423)	Rt Cant	0.300 (2L/240)	0.036 (4%)	D+S	LL

Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.002", Long Term = 0.003"
3 Fill all hanger nailing holes.
4 Girders are designed to be supported on the bottom edge only.
5 Top braced at bearings.
6 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In	0-0-0 to 6-0-0	(Span)10-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	LSC FLR
2	Tie-In	0-0-0 to 8-0-0	(Span)2-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	RSC FLR
3	Part. Uniform	6-0-0 to 8-0-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
4	Tie-In	6-0-0 to 8-0-0	(Span)14-6-0	Top	17 PSF	0 PSF	25 PSF	0 PSF	0 PSF	ROOF
	Self Weight				7 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the structure.

This design is valid until 10/31/2020

Manufacturer Info

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

INTERNATION WOOD PRODUCTS
14421 SE 98TH CT. , OREGON
USA
97015
503-650-9663

Clackamas EWP Department — IWP — Building a reputation... not resting on one.

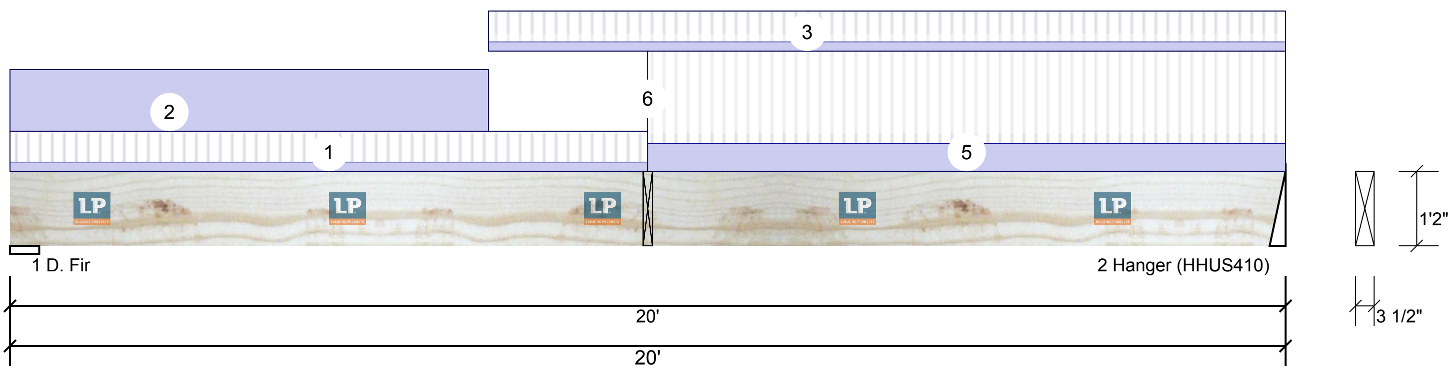
Established Basic Permit # 19-03671

Permit Number: 20-04899

Client:	Rachel Roupe - Envision Northwest	Date:	7/16/2019
Project:	DUPLEX 1880-1620A	Designer:	DAYTON CROYDON
Address:		Job Name:	DUPLEX 1880-1620A
		Project #:	IWP24793

LSL4-20 LEFT THIRD LEVEL LP-LVL 2900Fb-2.0E 3.500" X 14.000" - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions PATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1123	946	0 (-32)	0	0
2	1697	724	0 (-31)	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - D. Fir	5.500"	17%	946 / 1123	2068	L	D+L
2 - Hanger	3.000"	31%	724 / 1697	2421	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	12662 ft-lb	10'	27029 ft-lb	0.468 (47%)	D+L	L
Shear	2121 lb	18'7 3/4"	9310 lb	0.228 (23%)	D+L	L
LL Defl inch	0.357 (L/653)	10'3 9/16"	0.485 (L/480)	0.730 (73%)	L	L
TL Defl inch	0.532 (L/438)	10'2 1/8"	0.971 (L/240)	0.550 (55%)	D+L	L

Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.176", Long Term = 0.263"
3 Fill all hanger nailing holes.
4 Girders are designed to be supported on the bottom edge only.
5 Top braced at bearings.
6 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In	0-0-0 to 10-0-0	(Span)2-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	RSC 1
2	Part. Uniform	0-0-0 to 7-6-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
3	Tie-In	7-6-0 to 20-0-0	(Span)2-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	LSC FLR
4	Point	10-0-0		Far Face	159 lb	720 lb	0 lb	0 lb	0 lb	LSL3-8 THIRD LEVEL Brg 1
5	Tie-In	10-0-0 to 20-0-0	(Span)6-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	RSC 2
6	Point	10-0-0		Far Face	0 lb	0 lb	-64 lb	0 lb	0 lb	LSL3-8 THIRD LEVEL Brg 1
	Self Weight				14 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Established Basic Permit #
19-03671

This design is valid until 10/31/2020

Manufacturer Info

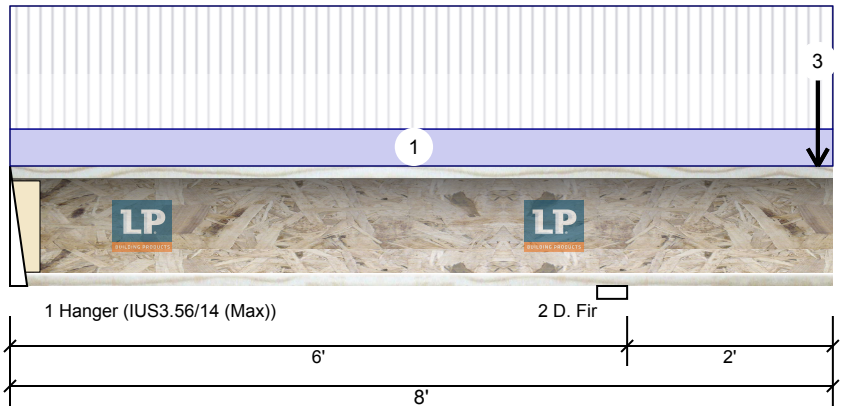
Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

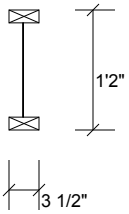
INTERNATION WOOD PRODUCTS
14421 SE 98TH CT. , OREGON
USA
97015
503-650-9663

Permit Number: 20-04899

J2-8 THIRD LEVEL LPI 56 14.000" - PASSED

Level: Level





Member Information

Type:	Joist	Application:	Floor
Spacing:	24" o.c.	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	23/32 APA Rated Sturd-I-FloorOSB Nailed and Glued
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions PATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	238 (-19)	(-85)	0 (-100)	0	0
2	429	721	400	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	9%	-85 / 238	153 (-185)	L_	D+L
2 - D. Fir	3.500"	37%	721 / 622	1343	LL	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1474 ft-lb	6'	14088 ft-lb	0.105 (10%)	D+S	_L
Pos Moment	98 ft-lb	1'5 11/16"	12250 ft-lb	0.008 (1%)	D+L	L_
Shear	837 lb	6'	2680 lb	0.312 (31%)	D+0.75(L+S)	LL
LL Defl inch	0.006 (L/11776)	2'11 3/4"	0.144 (L/480)	0.040 (4%)	L	L_
TL Defl inch	0.005 (L/14298)	2'8 11/16"	0.192 (L/360)	0.030 (3%)	D+L	L_
LL Cant	0.014 (2L/3388)	Rt Cant	0.200 (2L/480)	0.071 (7%)	S	LL
TL Cant	0.036 (2L/1344)	Rt Cant	0.300 (2L/360)	0.119 (12%)	D+S	LL

Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = -0.001", Long Term = -0.002"
3 Fill all hanger nailing holes.
4 Tie-down connection required at bearing 1 for uplift 185 lb (Combination D+S, Load Case _L).
5 Bottom flange braced at bearings.
6 Web stiffeners required at Bearing 1.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		2-0-0	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	FLR
2	Point	7-10-4		120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	GABLE WALL
	Bearing Length	0-1-8							

Continued on page 2...

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the structure.

This design is valid until 10/31/2020

Manufacturer Info

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L238, ICC-ES: ESR-1305, LADBS: RR-25099, Florida: FL15401

INTERNATION WOOD PRODUCTS
14421 SE 98TH CT. , OREGON
USA
97015
503-650-9663

Clackamas EWP Department — Building a reputation... not resting on one.

Established Basic Permit # 19-03671

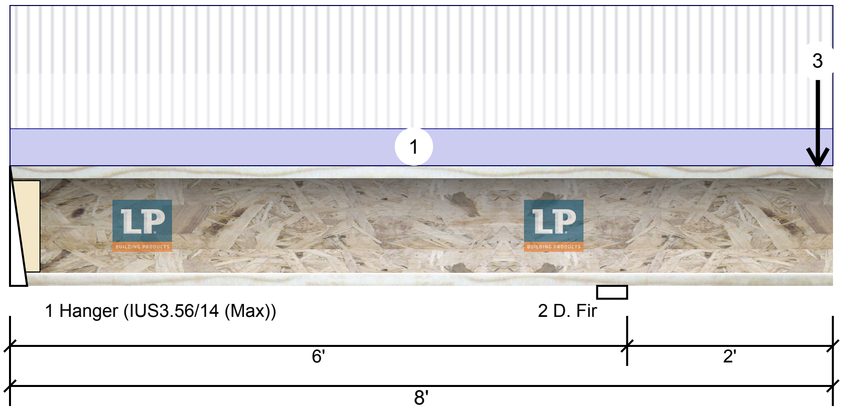
Permit Number: 20-04899

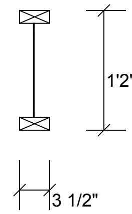
LP SOLIDSTART® DESIGN SOFTWARE

Client:	Rachel Roupe - Envision Northwest	Date:	7/16/2019
Project:	DUPLEX 1880-1620A	Designer:	DAYTON CROYDON
Address:		Job Name:	DUPLEX 1880-1620A
		Project #:	IWP24793

J2-8 THIRD LEVEL LPI 56 14.000" - PASSED

Level: Level





...Continued from page 1

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
3	Point	7-10-4		102 PLF	0 PLF	150 PLF	0 PLF	0 PLF	ROOF
	Bearing Length	0-1-8							

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Established Basic Permit #
19-03671

This design is valid until 10/31/2020

Manufacturer Info

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L238, ICC-ES: ESR-1305, LADBS: RR-25099, Florida: FL15401

INTERNATION WOOD PRODUCTS
14421 SE 98TH CT. , OREGON
USA
97015
503-650-9663

Clackamas EWP Department
IWP
Building a reputation... not resting on one.

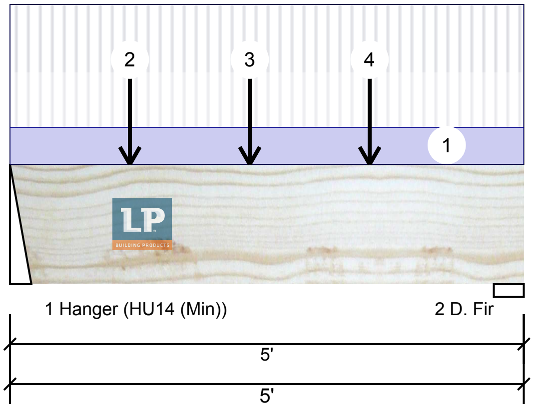
Permit Number: 20-04899

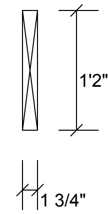
SOLIDSTART DESIGN SOFTWARE

Client:	Rachel Roupe - Envision Northwest	Date:	7/16/2019
Project:	DUPLEX 1880-1620A	Designer:	DAYTON CROYDON
Address:		Job Name:	DUPLEX 1880-1620A
		Project #:	IWP24793

LSL3-5 THIRD LEVEL LP-LSL 1.55E 1.750" X 14.000" - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions PATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1144	371	0	0	0
2	1120	364	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.500"	40%	371 / 1144	1515	L	D+L
2 - D. Fir	3.500"	39%	364 / 1120	1484	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1862 ft-lb	2'4"	11037 ft-lb	0.169 (17%)	D+L	L
Shear	979 lb	1'3 3/4"	6697 lb	0.146 (15%)	D+L	L
LL Defl inch	0.017 (L/3255)	2'4"	0.116 (L/480)	0.150 (15%)	L	L
TL Defl inch	0.023 (L/2458)	2'4"	0.231 (L/240)	0.100 (10%)	D+L	L

Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.006", Long Term = 0.008"
3 Fill all hanger nailing holes.
4 Girders are designed to be supported on the bottom edge only.
5 Top braced at bearings.
6 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In	0-0-0 to 5-0-0	(Span)14-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	LSC FLR
2	Point	1-2-0		Top	92 lb	288 lb	0 lb	0 lb	0 lb	STR
	Bearing Length	0-3-0								
3	Point	2-4-0		Top	92 lb	288 lb	0 lb	0 lb	0 lb	STR
	Bearing Length	0-3-0								
4	Point	3-6-0		Top	92 lb	288 lb	0 lb	0 lb	0 lb	STR
	Bearing Length	0-3-0								
	Self Weight				8 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Established Basic Permit #
19-03671

This design is valid until 10/31/2020

Manufacturer Info

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

INTERNATION WOOD PRODUCTS
14421 SE 98TH CT. , OREGON
USA
97015
503-650-9663

Clackamas EWP Department
IWP
Building a reputation... not resting on one.

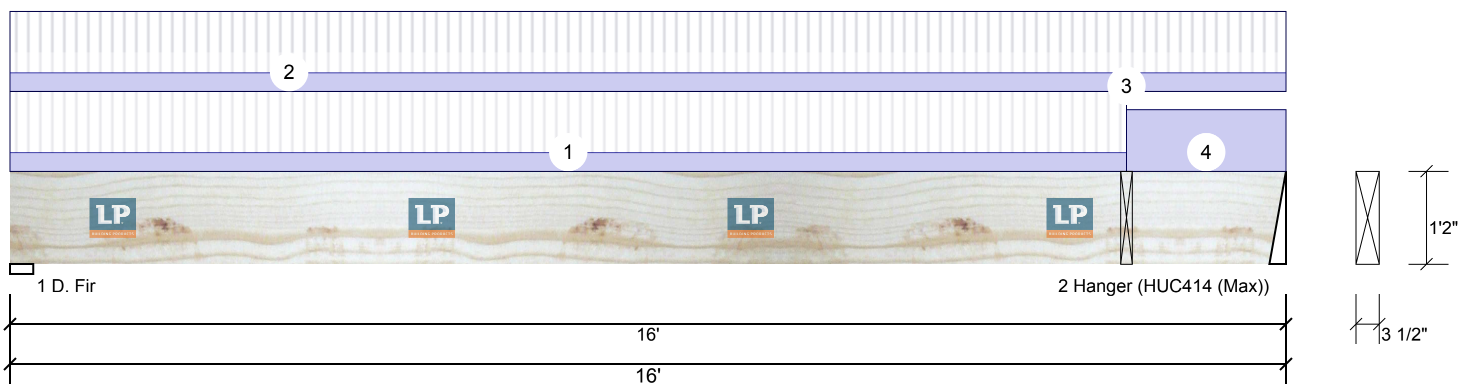
Permit Number: 20-04899

LP SOLIDSTART® DESIGN SOFTWARE

Client:	Rachel Roupe - Envision Northwest	Date:	7/16/2019
Project:	DUPLEX 1880-1620A	Designer:	DAYTON CROYDON
Address:		Job Name:	DUPLEX 1880-1620A
		Project #:	IWP24793

LVL1-16 THIRD LEVEL LP-LVL 2900Fb-2.0E 3.500" X 14.000" - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions PATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	775	353	0	0	0
2	1569	683	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - D. Fir	3.500"	15%	353 / 775	1128	L	D+L
2 - Hanger	2.500"	34%	683 / 1569	2252	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5131 ft-lb	9'6 5/8"	27029 ft-lb	0.190 (19%)	D+L	L
Shear	2113 lb	14'8 1/4"	9310 lb	0.227 (23%)	D+L	L
LL Defl inch	0.109 (L/1725)	8'5 9/16"	0.391 (L/480)	0.280 (28%)	L	L
TL Defl inch	0.156 (L/1201)	8'5 5/16"	0.781 (L/240)	0.200 (20%)	D+L	L

Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.047", Long Term = 0.071"
3 Fill all hanger nailing holes.
4 Girders are designed to be supported on the bottom edge only.
5 Top braced at bearings.
6 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In	0-0-0 to 14-0-0	(Span)2-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	RSC FLR
2	Tie-In	0-0-0 to 16-0-0	(Span)2-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	LSC FLR
3	Point	14-0-0		Far Face	371 lb	1144 lb	0 lb	0 lb	0 lb	LSL3-5 THIRD LEVEL Brg 1
4	Part. Uniform	14-0-0 to 16-0-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	0 PLF	RAILING
	Self Weight				14 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

This design is valid until 10/31/2020

Manufacturer Info

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

INTERNATION WOOD PRODUCTS
14421 SE 98TH CT. , OREGON
USA
97015
503-650-9663

Established Basic Permit #
19-03671

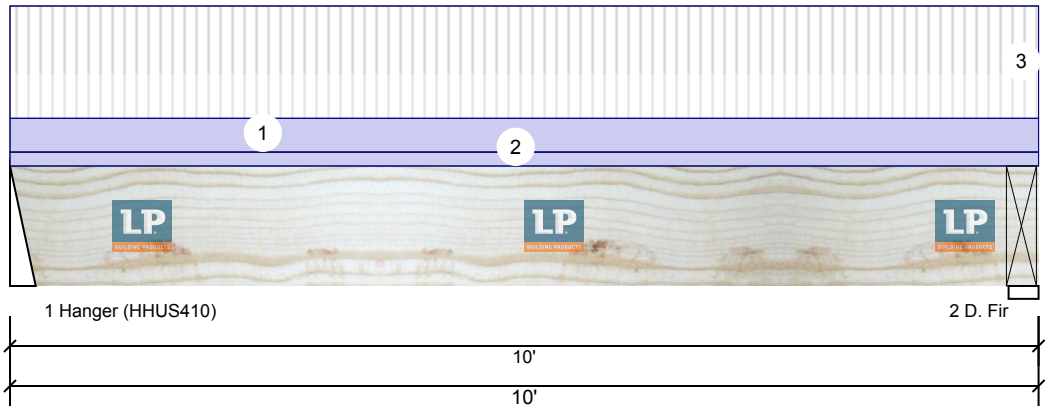
Permit Number: 20-04899

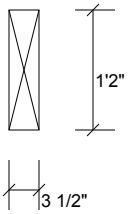
LP SolidStart® DESIGN SOFTWARE

Client:	Rachel Roupe - Envision Northwest	Date:	7/16/2019
Project:	DUPLEX 1880-1620A	Designer:	DAYTON CROYDON
Address:		Job Name:	DUPLEX 1880-1620A
		Project #:	IWP24793

LVL1-10 THIRD LEVEL LP-LVL 2900Fb-2.0E 3.500" X 14.000" - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions PATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1593	747	0	0	0
2	3176	1436	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	30%	747 / 1593	2340	L	D+L
2 - D. Fir	3.500"	60%	1436 / 3176	4611	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5396 ft-lb	4'11 3/4"	27029 ft-lb	0.200 (20%)	D+L	L
Shear	1704 lb	1'4 1/4"	9310 lb	0.183 (18%)	D+L	L
LL Defl inch	0.047 (L/2469)	4'11 3/4"	0.240 (L/480)	0.190 (19%)	L	L
TL Defl inch	0.068 (L/1681)	4'11 3/4"	0.479 (L/240)	0.140 (14%)	D+L	L

Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.022", Long Term = 0.033"
3 Fill all hanger nailing holes.
4 Girders are designed to be supported on the bottom edge only.
5 Top braced at bearings.
6 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In	0-0-0 to 10-0-0	(Span)16-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	LSC FLR
2	Uniform			Top	40 PLF	0 PLF	0 PLF	0 PLF	0 PLF	RAILING
3	Point	9-10-0		Far Face	683 lb	1569 lb	0 lb	0 lb	0 lb	LVL1-16 THIRD LEVEL Brg 2
	Self Weight				14 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the structure listed.

This design is valid until 10/31/2020

Manufacturer Info

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

INTERNATION WOOD PRODUCTS
14421 SE 98TH CT. , OREGON
USA
97015
503-650-9663

Clackamas E.W.P. Department IWP Building a reputation... not resting on one.

Established Basic Permit # 19-03671

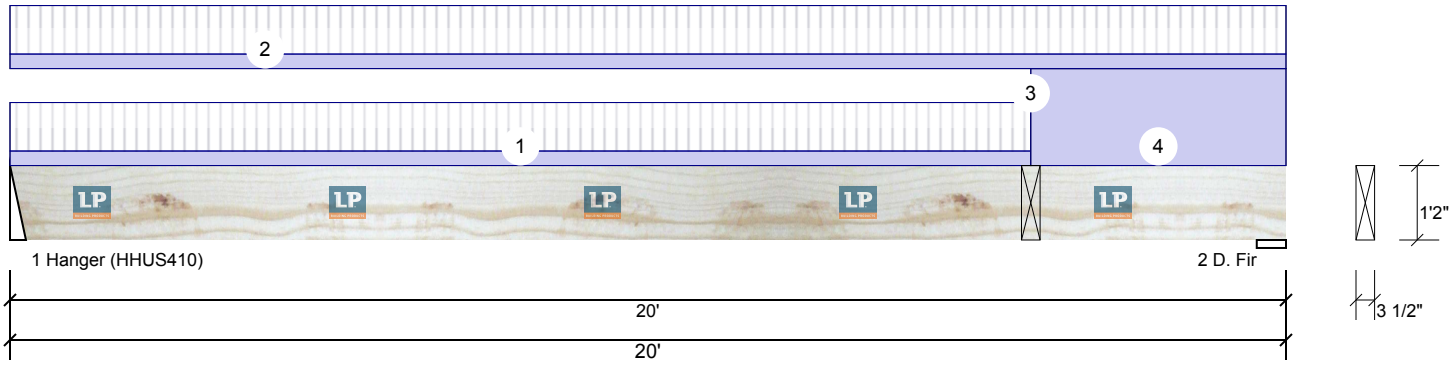
Permit Number: 20-04899

LP SolidStart® DESIGN SOFTWARE

Client:	Rachel Roupe - Envision Northwest	Date:	7/16/2019
Project:	DUPLEX 1880-1620A	Designer:	DAYTON CROYDON
Address:		Job Name:	DUPLEX 1880-1620A
		Project #:	IWP24793

LVL1-20 THIRD LEVEL LP-LVL 2900Fb-2.0E 3.500" X 14.000" - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions PATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1368	665	0	0	0
2	3248	1803	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	26%	665 / 1368	2033	L	D+L
2 - D. Fir	5.500"	42%	1803 / 3248	5051	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	17047 ft-lb	16'	27029 ft-lb	0.631 (63%)	D+L	L
Shear	4822 lb	18'5 1/4"	9310 lb	0.518 (52%)	D+L	L
LL Defl inch	0.458 (L/509)	10'9 13/16"	0.485 (L/480)	0.940 (94%)	L	L
TL Defl inch	0.683 (L/341)	10'10"	0.971 (L/240)	0.700 (70%)	D+L	L

Design Notes

1 Provide restraint at supports to ensure lateral stability.
2 Dead Load Deflection: Instant = 0.226", Long Term = 0.339"
3 Fill all hanger nailing holes.
4 Girders are designed to be supported on the bottom edge only.
5 Top braced at bearings.
6 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In	0-0-0 to 16-0-0	(Span)2-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	RSC FLR
2	Tie-In	0-0-0 to 20-0-0	(Span)2-0-0	Top	12 PSF	40 PSF	0 PSF	0 PSF	0 PSF	LSC FLR
3	Point	16-0-0		Far Face	1436 lb	3176 lb	0 lb	0 lb	0 lb	LVL1-10 THIRD LEVEL Brg 2
4	Part. Uniform	16-0-0 to 20-0-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
	Self Weight				14 PLF					

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the structure(s) described.

This design is valid until 10/31/2020

Manufacturer Info

Louisiana-Pacific Corp
414 Union Street, Suite 2000
Nashville, TN 37219
(888) 820-0325
www.lpcorp.com
APA: PR-L280, ICC-ES: ESR-2403, LADBS: RR-25783, Florida: FL15228

INTERNATION WOOD PRODUCTS
14421 SE 98TH CT. , OREGON
USA
97015
503-650-9663

Clackamas E.W.P. Department — Building a reputation... not resting on one.

Established Basic Permit # 19-03671

Permit Number: 20-04899

DUPLEX 1880-1620A RED BARN LANE

Address

Tracking # IWP24793 - Main House (or right click to rename) **Itemized List (Q/L)**

Client / PO# Rachel Roupe - Envision Northwest **Report Time** 7/16/2019 3:35 PM

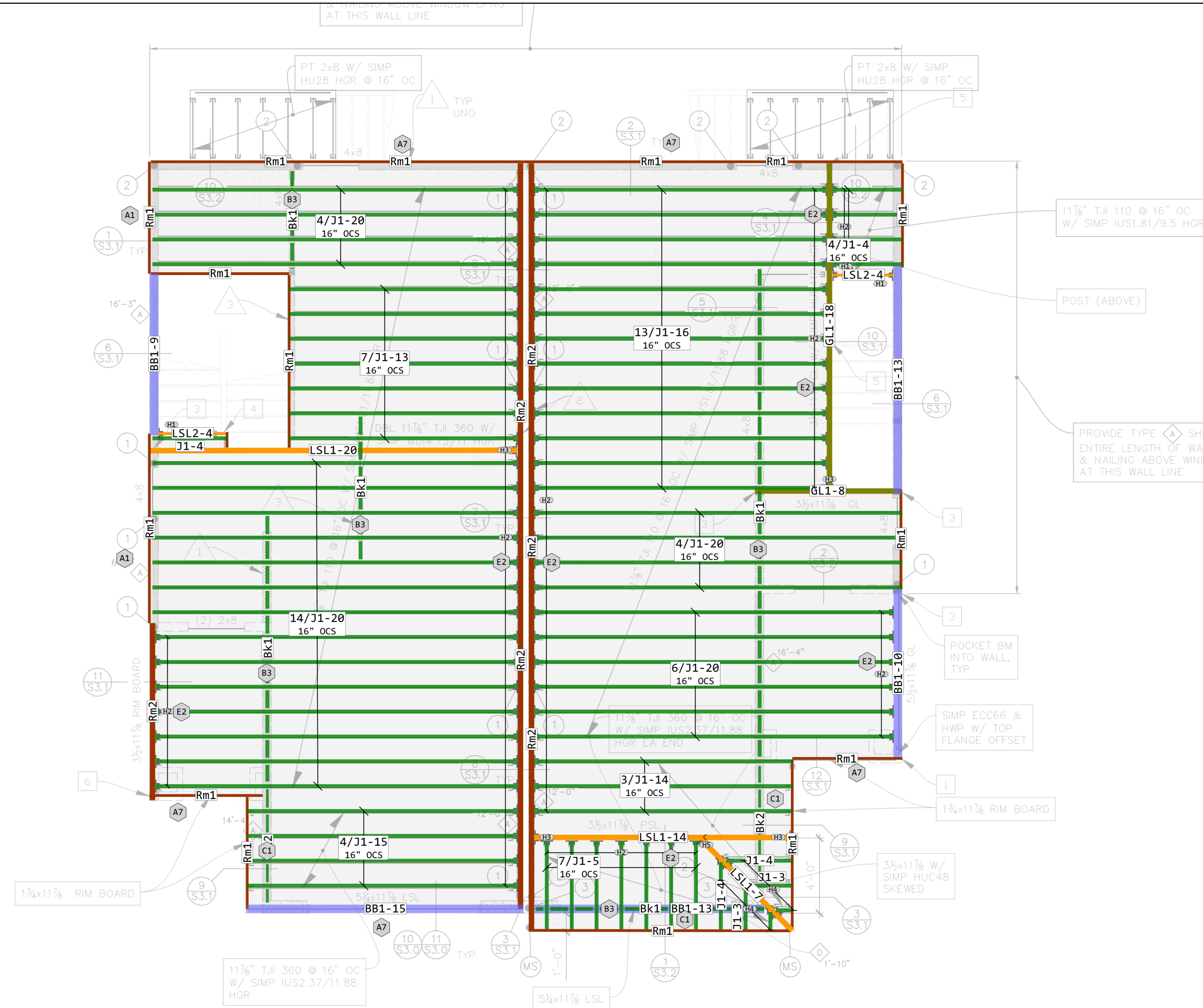
Estimator Dayton Croydon **Arch. Date** n/a **Struct. Date** n/a

Line #	Quantity	Product Description	Product Application
		MAIN LEVEL FRAMING Materials	
1	60	5-7/16"x11-7/8" Rosboro BigBeam	Beam
1		1/15 2/13 1/10 1/9	Qty/Length
2	41	3-1/2"x11-7/8" SolidStart LSL	Beam
2		1/20 1/14 1/7	Qty/Length
3	26	3-1/2"x11-7/8" Rosboro X-Beam	Beam
3		1/18 1/8	Qty/Length
4	8	1-3/4"x11-7/8" SolidStart LSL	Beam
4		2/4	Qty/Length
5	1,032	2-1/2"x11-7/8" LPI 18	Floor Joist
5		28/20 13/16 4/15 3/14 7/13 7/5 7/4 2/3 2/1	Qty/Length
6	57	2-1/2"x11-7/8" R/L LPI 18	Floor Joist Blocking
7	12	1-3/4"x11-7/8" R/L SolidStart LSL	Floor Joist Blocking
8	94	3-1/2"x11-7/8" R/L SolidStart LSL	Rim
9	130	1-3/4"x11-7/8" R/L SolidStart LSL	Rim
10	50	23/32"x4'x8'	Floor Decking
11	4	HHUS410 Simpson Strong Tie	Hanger
12	3	HU11 Simpson Strong Tie	Hanger
13	1	HUC48SKR45 Simpson Strong Tie	Hanger
14	92	IUS2.56/11.88 Simpson Strong Tie	Hanger
15	6	LSSUH310 Simpson Strong Tie	Hanger
16	27	Construction Adhesive (1 Qt.)	Adhesive
		UPPER LEVEL FRAMING Materials	
17	86	3-1/2"x14" SolidStart LVL	Beam
17		3/20 1/16 1/10	Qty/Length
18	24	3-1/2"x14" Rosboro X-Beam	Beam
18		1/14 1/10	Qty/Length
19	18	1-3/4"x14" SolidStart LSL	Beam
19		1/8 2/5	Qty/Length
20	651	3-1/2"x14" LPI 56	Floor Joist
20		17/20 4/16 3/15 7/14 4/13 2/10 4/8	Qty/Length
21	10	1-3/4"x14" R/L SolidStart LSL	Floor Joist Blocking
22	86	3-1/2"x14" R/L SolidStart LVL	Rim
23	147	1-3/4"x14" R/L SolidStart LSL	Rim
24	50	23/32"x4'x8'	Floor Decking
25	5	HHUS410 Simpson Strong Tie	Hanger
26	3	HU14 Simpson Strong Tie	Hanger
27	1	HUC414 Simpson Strong Tie	Hanger
28	49	IUS3.56/14 Simpson Strong Tie	Hanger
29	18	Construction Adhesive (1 Qt.)	Adhesive

Established Basic Permit #

19-03671

Permit Number: 20-04899



Tag	Qty	Product	Len
Floor Joist			
J1	28	2-1/2"x11-7/8" LPI 18	20'
J1	13	2-1/2"x11-7/8" LPI 18	16'
J1	4	2-1/2"x11-7/8" LPI 18	15'
J1	3	2-1/2"x11-7/8" LPI 18	14'
J1	7	2-1/2"x11-7/8" LPI 18	13'
J1	7	2-1/2"x11-7/8" LPI 18	5'
J1	7	2-1/2"x11-7/8" LPI 18	4'
J1	2	2-1/2"x11-7/8" LPI 18	3'
J1	2	2-1/2"x11-7/8" LPI 18	1'
Floor Joist Blocking			
Bk1	57	2-1/2"x11-7/8" LPI 18	R/L
Bk2	12	1-3/4"x11-7/8" SolidStart LSL	R/L
Beam			
LSL2	2	1-3/4"x11-7/8" SolidStart LSL	4'
Beam			
BB1	1	5-7/16"x11-7/8" Rosboro BigBeam	15'
BB1	2	5-7/16"x11-7/8" Rosboro BigBeam	13'
BB1	1	5-7/16"x11-7/8" Rosboro BigBeam	10'
BB1	1	5-7/16"x11-7/8" Rosboro BigBeam	9'
Beam			
LSL1	1	3-1/2"x11-7/8" SolidStart LSL	20'
LSL1	1	3-1/2"x11-7/8" SolidStart LSL	14'
LSL1	1	3-1/2"x11-7/8" SolidStart LSL	7'
Beam			
GL1	1	3-1/2"x11-7/8" Rosboro X-Beam	18'
GL1	1	3-1/2"x11-7/8" Rosboro X-Beam	8'
Rim			
Rm1	130	1-3/4"x11-7/8" SolidStart LSL	R/L
Rm2	94	3-1/2"x11-7/8" SolidStart LSL	R/L
Hanger			
H1	3	HU11 Simpson Strong Tie	
H2	92	IUS2.56/11.88 Simpson Strong Tie	
H3	4	HHUS410 Simpson Strong Tie	
H4	6	LSSUH310 Simpson Strong Tie	
H5	1	HUC48SKR45 Simpson Strong Tie	
Floor Decking			
	50	23/32"x4'x8'	

LP BUILDING PRODUCTS

DUPLEX 1880-1620A RED BARN LANE

SECOND LEVEL LAYOUT

International Wood Products

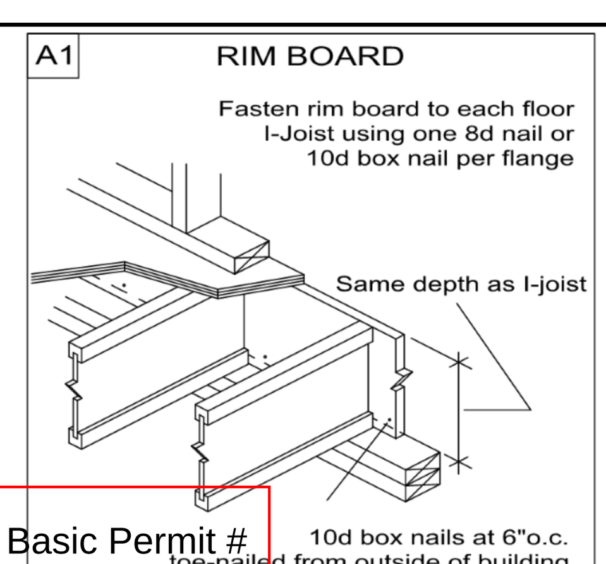
These placement plans for the products specified were based on the information provided to us. This service is solely intended for product application assurance; it is not intended to circumvent the need for a design professional as determined by the building codes. The designer of record and/or builder/framer is responsible to assure these drawings are compatible with the overall project.

Estimator: **Dayton Croydon**

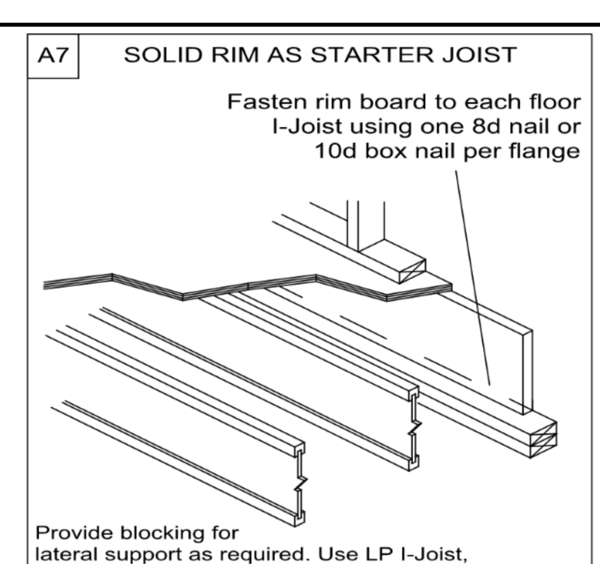
Tracking: **IWP24793**

Sheet 1 of 1

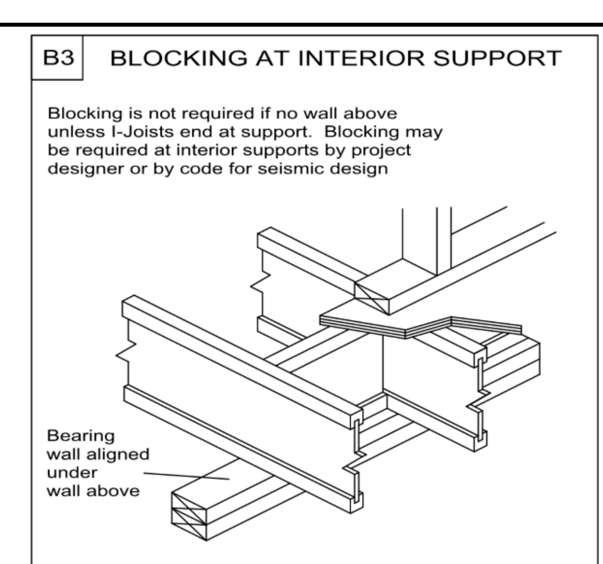
A1 RIM BOARD



A7 SOLID RIM AS STARTER JOIST

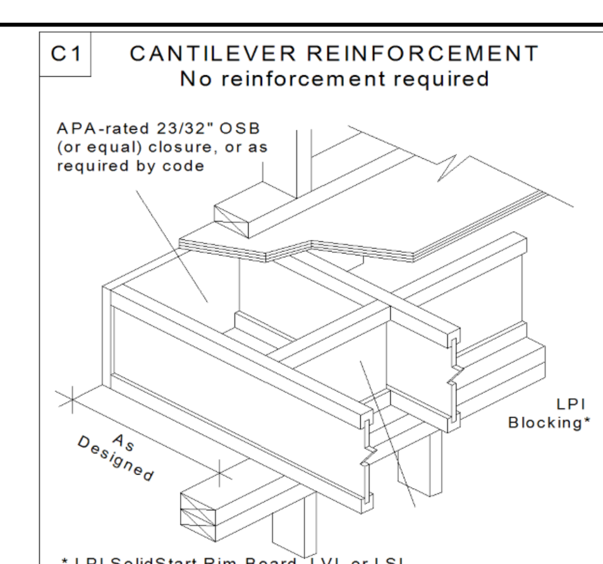


B3 BLOCKING AT INTERIOR SUPPORT

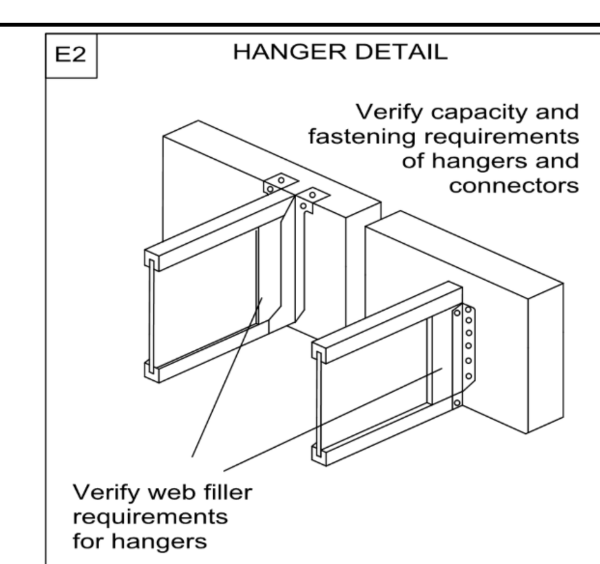


C1 CANTILEVER REINFORCEMENT

No reinforcement required



E2 HANGER DETAIL



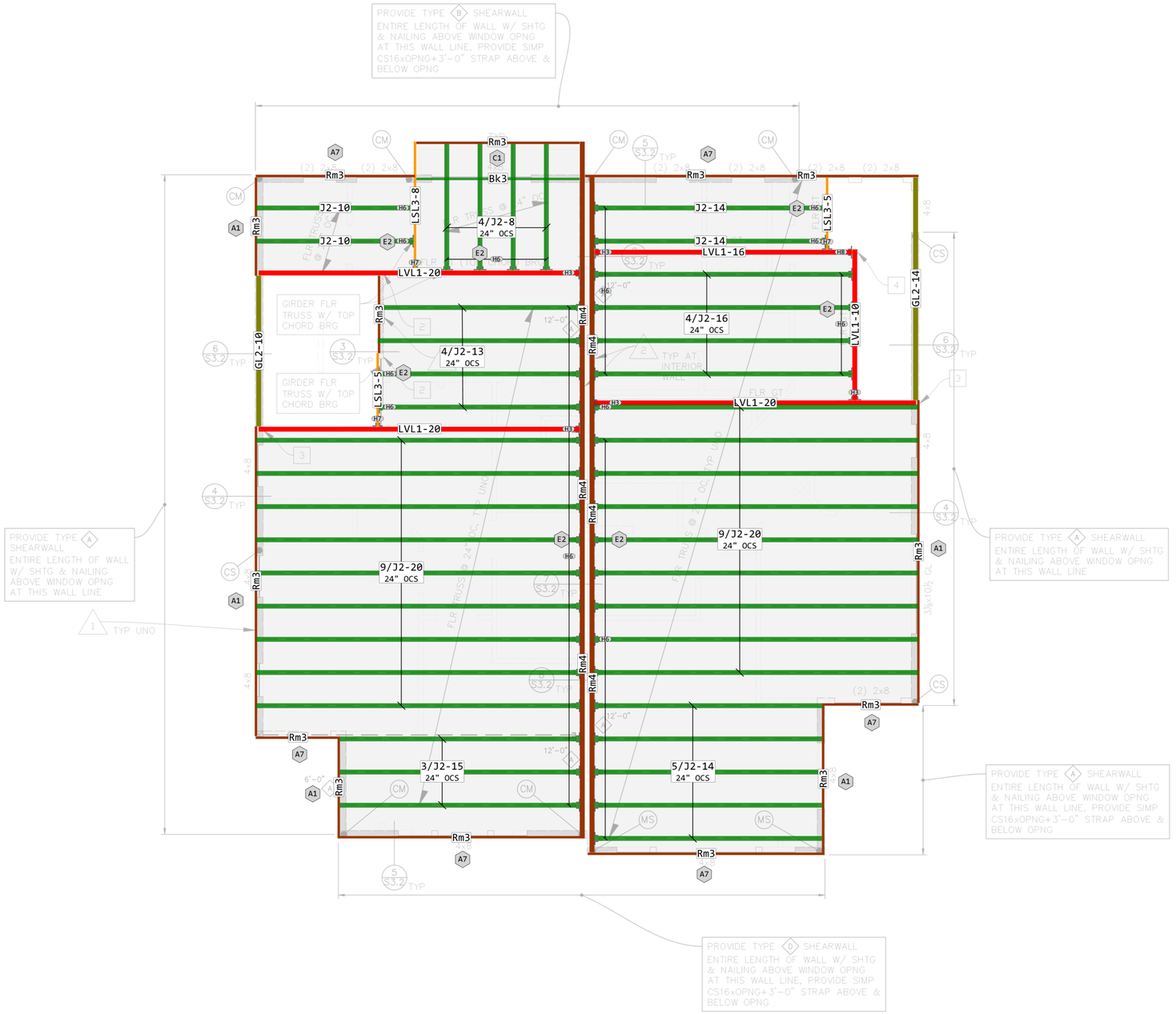
Established Basic Permit #
19-03671

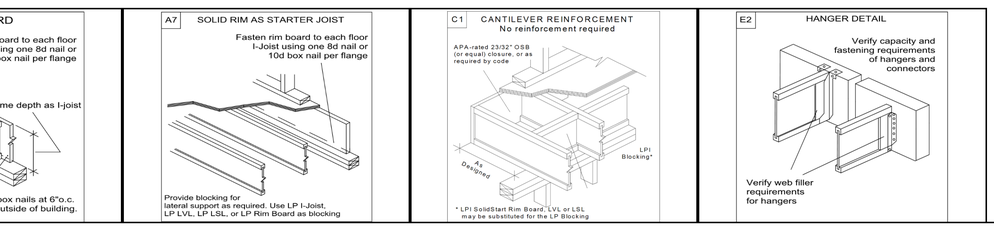
Permit Number: 20-04899

PLAN NC

1. SI
2. SI
3. SI

Tag	Qty	Product	Len
Floor Joist			
J2	17	3-1/2"x14" LPI 56	20'
J2	4	3-1/2"x14" LPI 56	16'
J2	3	3-1/2"x14" LPI 56	15'
J2	7	3-1/2"x14" LPI 56	14'
J2	4	3-1/2"x14" LPI 56	13'
J2	2	3-1/2"x14" LPI 56	10'
J2	4	3-1/2"x14" LPI 56	8'
Floor Joist Blocking			
Bk3	10	1-3/4"x14" SolidStart LSL	R/L
Beam			
GL2	1	3-1/2"x14" Rosboro X-Beam	14'
GL2	1	3-1/2"x14" Rosboro X-Beam	10'
Beam			
LSL3	1	1-3/4"x14" SolidStart LSL	8'
LSL3	2	1-3/4"x14" SolidStart LSL	5'
Beam			
LVL1	3	3-1/2"x14" SolidStart LVL	20'
LVL1	1	3-1/2"x14" SolidStart LVL	16'
LVL1	1	3-1/2"x14" SolidStart LVL	10'
Rim			
Rm3	147	1-3/4"x14" SolidStart LSL	R/L
Rm4	86	3-1/2"x14" SolidStart LVL	R/L
Hanger			
H3	5	HHUS410 Simpson Strong Tie	
H6	49	IUS3.56/14 Simpson Strong Tie	
H7	3	HU14 Simpson Strong Tie	
H8	1	HUC414 Simpson Strong Tie	
Floor Decking			
	50	23/32"x4'x8'	





Established Basic Permit # 19-03671

Permit Number: 20-04899

DUPLEX 1880-1620A RED BARN LANE

THIRD LEVEL LAYOUT

International Wood Products

These placement plans for the products specified were based on the information provided to us. This service is solely intended for product application assurance; it is not intended to circumvent the need for a design professional as determined by the building codes. The designer of record and/or builder/framer is responsible to assure these drawings are compatible with the overall project.

Estimator: **Dayton Croydon**

Tracking: **IWP24793**

Sheet 1 of 1