

BM₁

Client:

Signature Home Builders

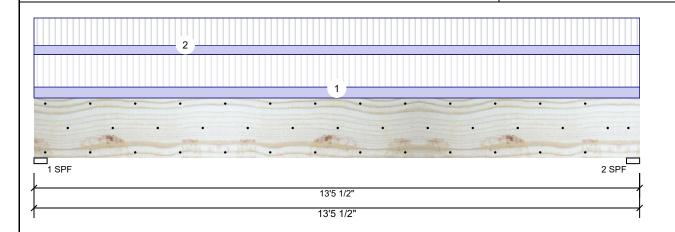
Project:

Address: Lot 8 Williams Farms Date: 5/29/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0523-2745 & 2746

2-Ply - PASSED **Kerto-S LVL** 1.750" X 16.000"

Level: Level



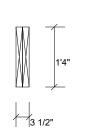
Floor

ASD

No

IBC 2012

Not Checked



Page 1 of 6

Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance:

Normal - II Temperature: Temp <= 100°F

Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	3768	1342	0	0	0
2	Vertical	3768	1342	0	0	0

Bearings

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Bearing L	_engtn	DII.	Сар. К	eact D/L lb	iotai	Ld. Case	La. Comb.
1-SPF 3	3.500"	Vert	98%	1342 / 3768	5110	L	D+L
2-SPF 3	3.500"	Vert	98%	1342 / 3768	5110	L	D+L

Analysis Results

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Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	16095 ft-lb	6'8 3/4"	34565 ft-lb	0.466 (47%)	D+L	L
Unbraced	16095 ft-lb	6'8 3/4"	16135 ft-lb	0.997 (100%)	D+L	L
Shear	4889 lb	1'7 1/2"	11947 lb	0.409 (41%)	D+L	L
LL Defl inch	0.176 (L/888)	6'8 3/4"	0.326 (L/480)	0.541 (54%)	L	L
TL Defl inch	0.239 (L/655)	6'8 3/4"	0.434 (L/360)	0.550 (55%)	D+L	L

Application:

Design Method:

Building Code:

Load Sharing:

Deck:

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 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top must be laterally braced at a maximum of 7'3 1/4" o.c.
- 6 Bottom must be laterally braced at end bearings.
- 7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Near Face	102 PLF	305 PLF	0 PLF	0 PLF	0 PLF	F04
2	Uniform			Far Face	85 PLF	255 PLF	0 PLF	0 PLF	0 PLF	f10
	Self Weight				12 PLF					

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.

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

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
- 6. For flat roofs provide proper drainage to prevent ponding

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us

Manufacturer Info

Comtech, Inc. 1001 S. Reilly Road, Suite #639 Fayetteville, NC USA 28314 910-864-TRUS



This design is valid until 11/3/2024 CSD DESIGN isDesign

Client:

Signature Home Builders

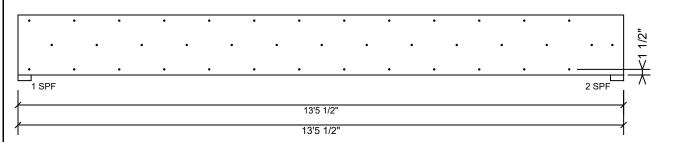
Project:

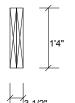
Address: Lot 8 Williams Farms Date: 5/29/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0523-2745 & 2746

1.750" X 16.000" **Kerto-S LVL** 2-Ply - PASSED BM₁

Level: Level





Page 2 of 6

Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

1 3		`	,
Capacity	82.9 %		
Load	203.5 PLF		
Yield Limit per Foot	245.6 PLF		
Yield Limit per Fastener	81.9 lb.		
Yield Mode	IV		
Edge Distance	1 1/2"		
Min. End Distance	3"		
Load Combination	D+L		
Duration Factor	1.00		

Notes

NOtes

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

Handling & Installation

- Handling & Installation

 1. UVI 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
 - - - This design is valid until 11/3/2024

For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info







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Kerto-S LVL

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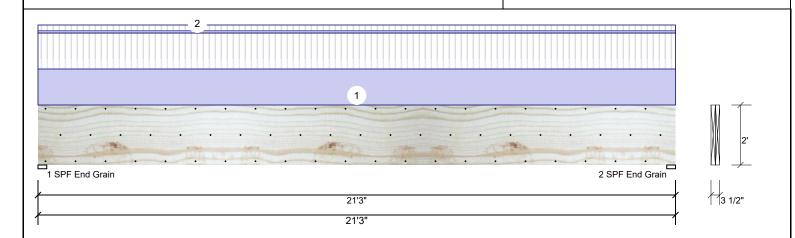
Project:

Address: Lot 8 Williams Farms

5/29/2023 Date:

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0523-2745 & 2746

1.750" X 24.000" 2-Ply - PASSED Level: Level



Member Information Type:

Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360

Importance: Normal - II Temperature: Temp <= 100°F

Application: Design Method: ASD **Building Code:** IBC 2012 No

Load Sharing: Deck: Not Checked

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	3060	2993	0	0	0
2	Vertical	3060	2993	0	0	0

Page 3 of 6

Analysis Results

Comb. Analysis Actual Location Allowed Case Capacity Moment 30845 ft-lb 10'7 1/2" 73185 ft-lb 0.421 (42%) D+L L Unbraced 30845 ft-lb 10'7 1/2" 30998 ft-lb 0.995 L (100%)Shear 4785 lb 18'11 1/2" 17920 lb 0.267 (27%) D+L L LL Defl inch 0.172 (L/1451) 10'7 9/16" 0.520 (L/480) 0.331 (33%) L ı TL Defl inch 0.341 (L/733) 10'7 9/16" 0.694 (L/360) 0.491 (49%) D+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 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 5'8 3/4" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

Reactions	UNPATTERNED	lb	(Uplift)
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Brg	Direction	Live	Dead	Snow	vvina	Const
1	Vertical	3060	2993	0	0	0
2	Vertical	3060	2993	0	0	0

Bearings

Grain

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" Vert 2993 / 3060 6053 L D+I End Grain 2 - SPF 3.500" 2993 / 3060 D+L Vert 6053 L End

-	3	1 /								
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Тор	248 PLF	248 PLF	0 PLF	0 PLF	0 PLF	B1
2	Uniform			Тор	15 PLF	40 PLF	0 PLF	0 PLF	0 PLF	FLOOR
	Self Weight				19 PI F					

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

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

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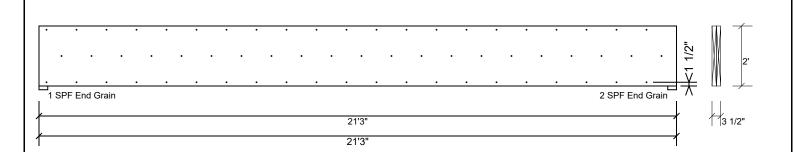
Signature Home Builders

Project:

Address: Lot 8 Williams Farms Date: 5/29/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0523-2745 & 2746 Page 4 of 6

1.750" X 24.000" **Kerto-S LVL** 2-Ply - PASSED Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

NOtes

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

Handling & Installation

- Handling & Installation

 1. IVI 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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

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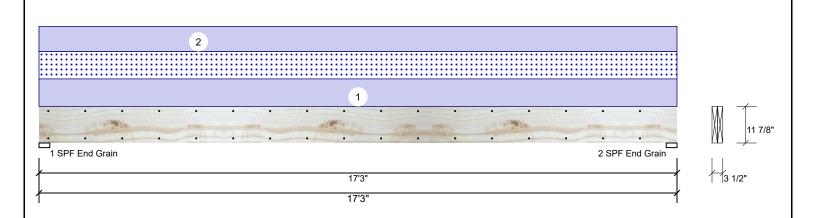
Project:

Address: Lot 8 Williams Farms Date: 5/29/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0523-2745 & 2746

Kerto-S LVL 2-Ply - PASSED 1.750" X 11.875" **GDH**

Level: Level



Member Information Application: Floor Type: Plies: 2 Design Method: ASD Moisture Condition: Dry **Building Code:** IBC 2012 Deflection LL: 480 Load Sharing: No Deflection TL: 360 Deck: Not Checked Importance: Normal - II Temperature: Temp <= 100°F

Analysis	Results
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Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9348 ft-lb	8'7 1/2"	22897 ft-lb	0.408 (41%)	D+S	L
Unbraced	9348 ft-lb	8'7 1/2"	9362 ft-lb	0.998 (100%)	D+S	L
Shear	1957 lb	15'11 5/8"	10197 lb	0.192 (19%)	D+S	L
LL Defl inch	0.170 (L/1187)	8'7 9/16"	0.420 (L/480)	0.404 (40%)	S	L
TL Defl inch	0.512 (L/394)	8'7 9/16"	0.560 (L/360)	0.914 (91%)	D+S	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 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 10' 1/16" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

Reactions U	NPATTERNED	lb (Uplift)
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Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1529	759	0	0
2	Vertical	0	1529	759	0	0

Page 5 of 6

Bearings	5						
Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	22%	1529 / 759	2288	L	D+S
2 - SPF End	3.500"	Vert	22%	1529 / 759	2288	L	D+S

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Тор	88 PLF	0 PLF	88 PLF	0 PLF	0 PLF	B1
2	Uniform			Тор	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
	Self Weight				0 DI E					

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Grain

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Client:

Signature Home Builders

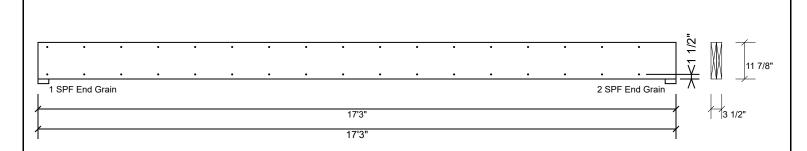
Project:

Address: Lot 8 Williams Farms Date: 5/29/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0523-2745 & 2746

Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED **GDH**

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

1 3		•	,
Capacity	0.0 %		
Load	0.0 PLF		
Yield Limit per Foot	163.7 PLF		
Yield Limit per Fastener	81.9 lb.		
Yield Mode	IV		
Edge Distance	1 1/2"		
Min. End Distance	3"		
Load Combination			
Duration Factor	1.00		

Notes

NOtes

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

Handling & Installation

- Handling & Installation

 1. UVI 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

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CSD DESIGN