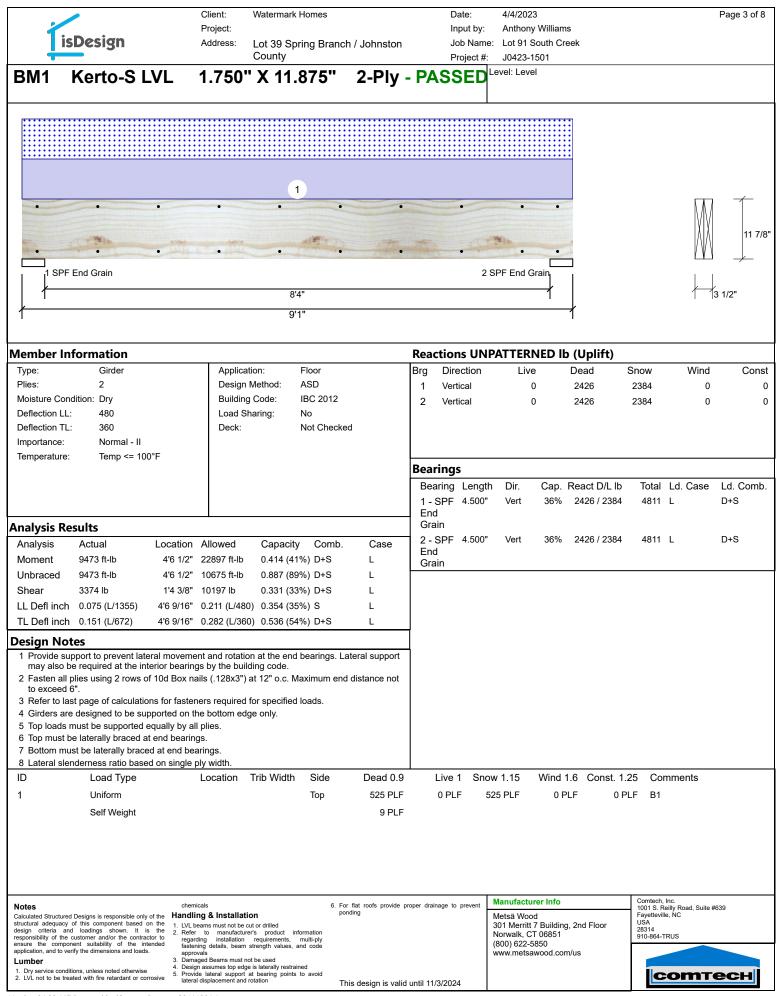


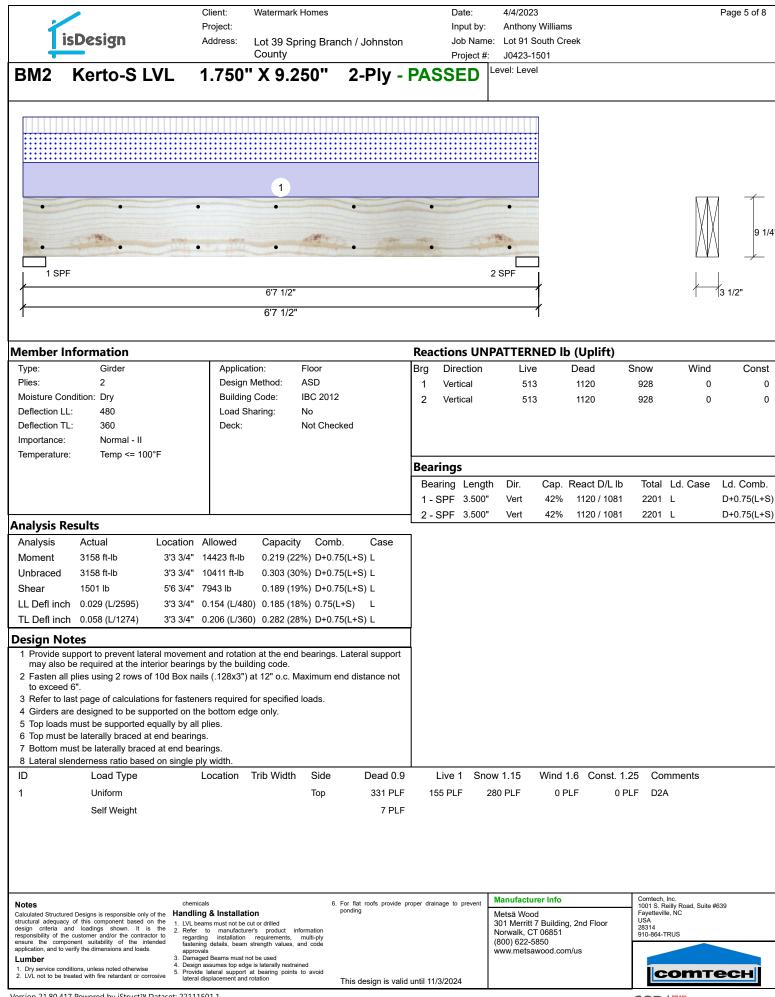
Version 21.80.417 Powered by iStruct<sup>™</sup> Dataset: 22111501.1

isDesign	Client: Watermark Homes Project: Address: Lot 39 Spring Bi County	; Date: Input by: ranch / Johnston Job Nam Project #	ne: Lot 91 South Creek	Page 2 of 8
GDH-SIDE Kerto-S L	/L 1.750" X 18.0	00" 2-Ply - PASSED	Level: Level	
	· · · · ·	· · · · ·	· · · · ·	· [1]
1 SPF End Grain			2 SPF End Gr	
		16'3" 16'3"		<u> </u>
				·
Fasten all plies using 3 rows of 100         Capacity       0.0 %         Load       0.0 PLF         Yield Limit per Foot       245.6 P         Yield Limit per Fastener       81.9 lb.         Yield Mode       IV         Edge Distance       1 1/2"         Min. End Distance       3"         Load Combination       Duration Factor         Duration Factor       1.00		o.c Maximum end distance r	ot to exceed 6".	
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads. Lumber 4. De	emicals <b>Jling &amp; Installation</b> L beams must not be cut or drilled fer to manufacturer's product information garding installation requirements, multi-ply tening details, beam strength values, and code provals maged Beams must not be used sign assumes top edge is laterally restrained ovide lateral support at bearing points to avoid	<ol> <li>For flat roofs provide proper drainage to prevent ponding</li> </ol>	Manufacturer Info Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us	Comtech, Inc. 1001 S. Reilly Road, Suite #639 Fayetteville, NC USA 28314 910-864-TRUS
2. LVL not to be treated with fire retardant or corrosive lat	eral displacement and rotation	This design is valid until 11/3/2024		соттесн



Version 21.80.417 Powered by iStruct<sup>™</sup> Dataset: 22111501.1

		Client: V Project:	Vatermark Homes		Date: Input by:	4/4/2023 Anthony Williams	Page 4 of 8
i	sDesign		ot 39 Spring Bra County	nch / Johnston	Job Name Project #:	e: Lot 91 South Creek	
BM1	Kerto-S LVL	1.750"	X 11.875"	2-Ply	- PASSED	Level: Level	
•	• •		•				
		•	·		•	1/2"	11 7/8"
•	• •	•	•	• •	•	· · + ¥	
	<sup>=</sup> End Grain				2	SPF End Grain	
			8'4" 9'1"			1	1 13 1/2"
Multi-Ply A	Analysis lies using 2 rows of <sup>-</sup>	10d Box nails ( 1	28v3") at 12" c	o c Maximum	end distance n	at to exceed 6"	
Capacity Load	0.0 ° 0.0 °	%					
Yield Limit per Yield Limit per	Foot 163.	.7 PLF					
Yield Mode	IV						
Edge Distance Min. End Dista		2"					
Load Combinat Duration Facto							
structural adequacy design criteria an responsibility of the	nd loadings shown. It is the customer and/or the contractor to	<ol> <li>LVL beams must not be cut of Refer to manufacturer's regarding installation re</li> </ol>	r drilled product information equirements, multi-ply	. For flat roofs provide p ponding	roper drainage to prevent	Manufacturer Info Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (200) 622 5850	Comtech, Inc. 1001 S. Reilly Road, Suite #639 Fayetteville, NC USA 28314 910-864-TRUS
application, and to v Lumber 1. Dry service cond	ditions unloss noted athenuise	fastening details, beam stre approvals 3. Damaged Beams must not b 4. Design assumes top edge is 5. Provide lateral support at l lateral displacement and rota	ength values, and code e used laterally restrained pearing points to avoid	This design is valid	until 11/3/2024	(800) 622-5850 www.metsawood.com/us	соттесн



Version 21.80.417 Powered by iStruct<sup>™</sup> Dataset: 22111501.1

		Client: Project:	Watermark Homes		Date: Input by:	4/4/2023 Anthony Williams	Page 6 of 8
	isDesign	Address:	Lot 39 Spring Bra County	anch / Johnstor	ן Job Nam Project #	ne: Lot 91 South Creek : J0423-1501	
BM2	2 Kerto-S LV	L 1.750"	' X 9.250"	2-Ply	PASSED	Level: Level	
						I	
•	•	•	•	•	•	•	
	•	•	•	•	•	•	9 1/2
	1 SPF					2 SPF	
			6'7 1/2" 6'7 1/2"				3 1/2"
			071/2			1	
	<b>Ply Analysis</b> all plies using 2 rows o	f 10d Box pails (	128v2") at 12"	o c. Maximur	n and distance r	not to avcoud 6"	
Capacity Load	0.	0 % 0 PLF					
Yield Lim	it per Foot 16	53.7 PLF 1.9 lb.					
Yield Mod	de IV	/					
Edge Dist Min. End	Distance 3'	1/2"					
Load Con Duration		.00					
Notes		chemicals		6. For flat roofs provide	proper drainage to prevent	Manufacturer Info	Comtech, Inc. 1001 S. Reilly Road, Suite #639
Calculated s structural a design crit responsibilit	Structured Designs is responsible only of the dequacy of this component based on the teria and loadings shown. It is the y of the customer and/or the contractor to component suitability of the intended	Handling & Installati 1. LVL beams must not be c 2. Refer to manufacture regarding installation	<b>ON</b> ut or drilled r's product information requirements, multi-ply	ponding	- '	Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850	Fayetteville, NC USA 28314 910-864-TRUS
application, Lumber 1. Dry serv	and to verify the dimensions and loads.	approvals 3. Damaged Beams must no 4. Design assumes top edge 5. Provide lateral support	is laterally restrained at bearing points to avoid	This design is va	lid until 11/3/2024	www.metsawood.com/us	соттесн

1       1	Contry         Protect         JULES 1801           BM3         Kerto-S LVL         1.750" X 9.250"         2-Phy - PASSED         [Avera Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]         Import Lawa]           Import Lawa]         Import Lawa]         Import Lawa]<	Page 7 of 8
M3       Kerto-S LVL       1.750" X 9.250"       2-Pily - PASSED       Low Low         Image: Low Low       Image: Low       Image: Low       Image: Low       Image: Low       Image: Low         Image: Low       <	BM3       Kerto-S LVL       1.750" X 9.250"       2-Ply - PASSED       Level Level         Image: Second	
Image: Single Colspan="2">Image: Single Colspan="2"         Image: Single Colspan="2"       Image: Single Colspan= Single Colspan="2"       Image: Single Colspan="2"                 <	SPF End Grain       2 SPF End Grain	
Image: Set of Canal Set of	SPF End Grain       2 SPF End Grain         1       54"         Series       64"         1       100"         Parke:       0         1       0         1       0         1       0         1       0         1       1425         1       0         1       1425         1       0         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1425         1       1433         1       1433         1       1433         1       1433         1       1433         1       1433	
Stat       Stat         Statistic       Statistic         Statistic <td< td=""><td>64'       Store         Reactions UNPATTERNED Ib (Uplift)         Spe:       2         Uplication:       Projection:         Projection:       Design Method:         Association:       Marketon:         Specification:       Design Method:         Association:       Marketon:         Specification:       Design Method:         Association:       Normal - II         Iemportance:       Normal - II         Iemportance:       Normal - II         Iemportance:       Normal - II         Iemportance:       Normal - II         Association:       Normal - II         Isoparation:       Normal - III         Isoparation:       Normal - III         Isoparation:       Normal - IIII         Isoparation:       Normal - IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII</td><td>9 1</td></td<>	64'       Store         Reactions UNPATTERNED Ib (Uplift)         Spe:       2         Uplication:       Projection:         Projection:       Design Method:         Association:       Marketon:         Specification:       Design Method:         Association:       Marketon:         Specification:       Design Method:         Association:       Normal - II         Iemportance:       Normal - II         Iemportance:       Normal - II         Iemportance:       Normal - II         Iemportance:       Normal - II         Association:       Normal - II         Isoparation:       Normal - III         Isoparation:       Normal - III         Isoparation:       Normal - IIII         Isoparation:       Normal - IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	9 1
Barber Information     Reactions UNPATTERNED Ib (Uplift)       pysi:	Image: Sing the second sec	3 1/2"
Reactions UNPATTERNED Ib (Uplift)         type:       Gitter       Brig       Direction       Live       Dead       Snow       Wind       Constitution         besture Condition: Dry       Building Code:       BIC 2012       Lass Sharing: No       Dead       0       1479       1468       0         protocol:       No Checked       Design Mathod:       ASD       Building Code::       IN Checked       Dead       Since V       0       1479       1468       0         Protocol:       No Checked       Bearing Length Dir.       Cap React DILlib       Total Lid Case Lid Comit         Advantage Length Dir.       Cap React DILlib       Total Lid Case       Lid Comit         Advantage Length Dir.       Cap React DILlib       Total Lid Case       Lid Comit         Advantage Length Dir.       Cap React DILlib       Total Lid Case       Lid Comit         Advantage Lid Comit         Advantage Lid Comit         Log Chine Coupy       Cap React DILlib       Total Lid Case       Lid Comit         Log Chine Coupy       Cap React DILlib       Total Lid Case       Lid Comit         Log Colspan= Coupy       Cap React DI	Rember Information     Reactions UNPATTERNED Ib (Uplift)       Type:     2       Molisture Condition: Dry     Design Method: ASD       Building Cofe:     IBC 2012       Long Starting:     Application: Molignee Condition: Dry       Deflection IL:     400       Deflection TL:     300       Importance:     Normal:       Temperature:     Temp <= 100'F	5 1/2
pre:       Glidar       Application:       Floor       Badgin Method:       ASD         les:       2       Design Method:       ASD       Dualing Code:       Big Direction       Live Dead       Snow       Wind       Construction         effection LL:       480       effection LL:       Application:       Normal - II       Dead       Snow       Wind       Construction         importance:       Normal - II       angoine Method:       AsD       Dead       Snow       Wind       Construction         application:       Tomp <= 100°F       Dead       Snow       Wind       Construction       1       Vertical       0       1479       1458       0         application:       Tomp <= 100°F       Dead       Snow       Normal - II       Snow       Wind       Construction         application:       Tomp <= 100°F       Dead       Snow       Normal - II       Snow       Wind       Construction         application:       Tomp <= 100°F       Dead       Construction       Dead       Snow       Wind       Construction         application:       Tomp <= 100°F       Dead       Construction       Dead       Snow       Vert Snow       Snow       Vert Snow       Snow       Ve	Type:     Girder     Application:     Floor       Piles:     2       Mosture Confliction: Dry     Building Code:     IBC 2012       Laad Sharing:     No       Deck:     Not Checked       Importance:     Normal - II       Temperature:     Temp -= 100°F       Analysis     Actual       Deck:     Not Checked       Basic Confliction:     1       Vertical     0       1     Vertical       Deck:     Not Checked       Basic Confliction:     1       Participation:     State Confliction:       Analysis     Actual       Deck:     Not Checked       Bearings       Bearings       Bearings       Bearings       Control       Deck:       Not Checked       Brain State Control       Control       Deck:       Not Checked       Deck:       Not Checked       Deck:       D	
Instruct Condition:     Design Method:     ASD       Design Method:     IBC 2012       Load Sharing:     Not Checked       Image:     Not Checked       Imag	Prives:       2       2       Design Method:       ASD         Design Method:       ASD       Building Code:       IBC 2012         Location T1::       360       mportance:       Not Checked         Design Method:       Not Checked       Design Method:       ASD         Design Method:       Not Checked       Design Method:       ASD         Itemperature:       Temp <= 100°F	
bisiture Constitut: Dy effection TL: 480 effection TL: 480 effection TL: 5PF 3000" Vert 33% 1479 / 1468 0 bek: Not Checked Dek: Not	Masture Condition: Dry Deflection L:: 480 Deflection T: 360 mportance: Normal - II Temperature: Temp <= 100°F Building Code: BC 2012 Load Stramp: No Deck: Not Checked Bearing Length DC Cap. React D/L Ib Total Ld. Case I Bearing Length OC Vert 33% 1479 / 1458 2938 L I	Cons
effection TL: 480 effection TL: 380 nportance: Normal - II emperature: Temp <= 10°F halysis Actual Location Allowed Capacity Comb. Case halysis Actual Location Allowed Capacity Comb. Case Thoread 3751 hb. 2111 11423 hb. 0.280 (28%) DrS L bear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 2000 Vert 33% 1479 / 1488 2938 L DrS thear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 2000 Vert 33% 1479 / 1488 2938 L DrS thear 1915 b 49 347 7432 hb. 0.241 (24%) DrS L bear 1915 b 2000 Vert 33% 1479 / 1488 2938 L DrS thear 1916 b 2000 Vert 33% 1479 / 1488 2938 L DrS thear 1916 b 2000 Vert 33% 1479 / 1488 2938 L DrS thear 1916 b 2000 Vert 33% 1479 / 1488 2938 L DrS thear 1916 b 2000 Vert 1910 Vert 1910 Vert 1910 Vert 1910	Defection LL: 480 Dediction LL: 480 Dediction LL: 480 Deck: Not Checked Deck: Not Checked Bearings Bearing Length Dir. Cap. React Dir. Lb. Total Ld. Case I 1. SPF 3.000' Vert 33% 1479 / 1458 2938 L I Grain Provide support of Autual Location Allowed Capacity Comb. Case Moment 3751 ft-lb 2'11" 1110 ft-lb 0.38 (04%) D-S L LD Eff inch 0.028 (L/2318) 2'11" 0.136 (L/480) 0.207 (21%) S L L Deff inch 0.057 (L/1151) 2'11" 0.136 (L/480) 0.207 (21%) S L E Loef inch 0.057 (L/1151) 2'11" 0.136 (L/480) 0.207 (21%) S L E Leteral support to prevent lateral movement and rotation at the end bearings. Lateral support The Yorke support to prevent lateral movement and rotation at the end bearings. Lateral support Reader all subardor are designed to be supported or support dor prevent lateral movement and rotation at the end bearings. Lateral support Reader all subardor are designed to be supported or supported or specified loads. 6 Griders are designed to be supported at end bearings. 8 Lateral all subardor as single PW width. D Load Type Location Trib Width Side Dead 0.9 Live 1 Snow 1.15 Wind 1.6 Const. 1.25 Comments 1 Uniform Top 500 PLF 0 PLF 500 PLF 0 PLF 0 PLF A2 Self Weight 7 PLF	
Importance:       Normal - II         emperature:       Tamp <= 100°F	Importance:       Normal - II         Temperature:       Temp <= 100°F	
emperature:       Temp <= 100°F         lalysis       Results         malysis Actual       Location       Allowed       Capacity       Comb.       Capacity       Capacity       Comb.       Capacity       Comb.       Capacity       Comb.       Capacity       Comb.       Capacity       Comb.       Capacity       Comb.       Capacity       Capacity       Comb.       Capacity       Capacity       Comb.       Capacity       Capa	Bearings         Images is Results       Bearings         Analysis Results       Bearings         Onlysis Actual Moment 3751 fielb       2111       1110 fielb       Capacity       Comb       Case Lind         Johanded 3751 fielb       2111       14423 fielb       0.260 (26%) D+S       L       L       Define 0.0028 (U2318)       2111       1110 fielb       0.338 (34%) D+S       L         L Define 0.0028 (U2318)       2111       0.160 (U480)       0.207 (21%) S       L       L       End       Grain       2. SPF 3.000"       Vert       33% 1479 / 1458       2938       L       Define 0.028 (U2318)       2111       0.160 (U480)       0.207 (21%) S       L         L Define 0.0028 (U2318)       2111       0.160 (U480)       0.207 (21%) S       L       L       End       Grain       2. SPF 3.000"       Vert       3.8% 1479 / 1458       2938       L       Define 0.0028 (U2318)       2111       0.161 (D160) 0.207 (21%) S       L       L       Define 0.0028 (U2318)       2111       1110 Rthb       0.338 (31%) D+S       L       L       Define 0.0028 (U2318)       2111       1110 Rthb       0.38 (218) D+S       L       L       Define 0.0028 (U2318)       2111       1110 Rthb       Define 0.0128 (U3313 (314) D+S       L       Define	
Image: second	Image: second control     Actual     Location     Allowed     Capacity     Comb.     Case       Avalysis     Actual     Location     Allowed     Capacity     Comb.     Case       Moment     3751 ft-lb     2111*     11423 ft-lb     0.260 (26%) D+S     L       Jubraced     3751 ft-lb     2111*     11423 ft-lb     0.260 (26%) D+S     L       Li     Definich     0.026 (L/2318)     0.241 (4%) D+S     L       Li     Definich     0.026 (L/2318)     0.241 (4%) D+S     L       Li     Definich     0.057 (L/1151)     211*     0.136 (L/480)     0.207 (21%) S     L       Porvide supported     provide supported on the bottom edge ony.     5     Definich     0.057 (L/1151)     211*     0.138 (L/28.3*) at 12* o.c. Maximum end distance not to exceed 6*.       Patter to later page of calculations for fasteners required of at bearings.     Easten al piles using 2 rows of 104 Box nails (.128.3*) at 12* o.c. Maximum end distance not to exceed 6*.     Easten al piles using 2 rows of 104 Box nails (.128.3*) at 12* o.c. Maximum end distance not to exceed 6*.     Easten al piles endinge to prevent lateral subported equality branced at end bearings.       P optimus to be supported on the bottom edge ony.     5     Dop tools must be supported equality by with.     Top     Sol0 PLF     0 PLF     0 PLF     0 PLF     0 PLF     All	
adysis Results     1. SPF 3.00° Vert 33% 1479/1458 2938 L     DrS       adysis Actual     Location Allowed Capacity Comb.     Case       forment 375 1R-lb     21'1 1110 0.338 (44%) DrS     L       bear 1915 lb     49.34* 7943 lb     0.241 (24%) DrS     L       LDef inch     0.052 (L/218)     21'1 ''     0.18 (J480) 0.207 (21%) S     L       LDef inch     0.052 (L/218)     21'1 ''     0.18 (J480) 0.207 (21%) S     L       LDef inch     0.052 (L/218)     21'1 ''     0.18 (J480) 0.207 (21%) S     L       Provide support to prevent lateral movement and rotation at the end bearings. Lateral support     It is a support of one basings by the building code.       Provide support to prevent lateral movement and rotation at the end bearings.     Lateral support       Provide based on single ply width.     Dead or specified loads.       Correct in:     Top base must be laterally braced at end bearings.       Lateral supported on the bottom edge only.     Top base must be laterally braced at end bearings.       Lateral supported on single ply width.     Top       Do     Load Type     Location Trib Width Side     Dead 0.9       Uniform     Top     500 PLF     0 PLF     0 PLF       Seff Weight     7 PLF     Dead Type (Dead Stratege at the provide synaptic synap	analysis       Actual       Location       Allowed       Capacity       Comb.       Case         Analysis       Actual       Location       Allowed       Capacity       Comb.       Case         Jubraced       3751 ft-lb       2111       11432 ft-lb       0.260 (26%) D+S       L         Jubraced       3751 ft-lb       2111       1011 ft-lb       0.336 (34%) D+S       L         LD Bellinch       0.028 (L/2318)       2111       0.356 (L/480)       0.270 (21%) S       L         LD Bellinch       0.028 (L/2318)       2111       0.136 (L/480)       0.270 (21%) S       L         Provide support to prevent lateral movement and rotation at the end bearings.       Lateral support       Previde support to prevent lateral movement and rotation at the end bearings. Lateral support       Analysis         Provide support to prevent lateral movement and rotation at the end bearings.       Lateral support       Previde support to prevent lateral movement and rotation cat the end bearings.       Eateral allendermess ratio based on single ply width.         D       Locad Type       Location       Trib Wildth       Side       Dead 0.9       Live 1       Snow 1.15       Wind 1.6       Const. 1.25       Comments         1       Uniform       Top       500 PLF       0 PLF       0 PLF       0 PLF </td <td></td>	
Image: security       Contrain       Allowed       Capacity       Comb       Case         Inalysis       Actual       Location       Allowed       Capacity       Comb       Case         Inalysis       Actual       2.11*       14423 ft-lb       0.260 (26%) D+S       L         Inharaced       3751 ft-lb       211*       1110 ft-lb       0.338 (34%) D+S       L         LD eff inch       0.026 (L/2318)       211*       0.136 (L/480)       0.207 (21%) S       L         LD eff inch       0.057 (L/1151)       211*       0.136 (L/480)       0.207 (21%) S       L         Right Motes       Provide support       0.108 dox nalls (L/283*) at 12* or. Maximum end distance not to exceed 5*.       Image: support and particle supparticle supparticle support and partiel supparticle su	analysis       Actual       Location       Allowed       Capacity       Comb.       Case         Moment       3751 ft-lb       211*       14423 ft-lb       0.260 (28%) D+S       L       Capacity       Comb.       Case         Unbraced       3751 ft-lb       211*       11100 ft-lb       0.383 (34%) D+S       L       Capacity       Comb.       Case         LD eff inch       0.028 (U2318)       211*       0.186 (U480)       0.241 (24%) D+S       L       Case	Ld. Comb
Adjustis Results       Grain         Grain         Colspan="4">Capacity Comb. Case         Industion       Adjusted Capacity Comb. Case         Industation       State Capacity Comb. Case         Industation       Capacity Comb. Case         Industation       Comparison of the Capacity Comb. Case         Industation       Comparison of the Capacity Comb. Case         Industation       Capacity Comb. Case         Industation       Capacity Comb. Case         Industation       Capacity Capacity Comb. Case         Industation       Capacity Cap	nalysis Results       Grain         Analysis       Actual       Location       Allowed       Capacity       Come       Case         Unbraced       3751 ft-lb       2111*       1110 ft-lb       0.288 (24%) D+S       L         Unbraced       3751 ft-lb       2111*       0.138 (24%) D+S       L         LL Defl inch       0.028 (L/2318)       2111*       0.138 (L/480)       0.207 (21%) S       L         esign Notes	D+S
Starting Vietarius       Location       Allowed       Capacity       Comb.       Case         toment       3751 ft-lb       2111*       14423 ft-lb       0.260 (26%) D+S       L         hear       1915 lb       211*       1110 ft-lb       0.338 (34%) D+S       L         LDefl inch       0.0267 (L/1151)       211*       0.136 (L/2400) 0.272 (1%) S       L         LDefl inch       0.0267 (L/1151)       211*       0.136 (L/2400) 0.272 (1%) S       L         Provide support       Develoted after and place using 2 rows of 104 Box nails (.128x3*) at 12* o.c. Maximum end distance not to exceed 0*.       Fasten all place using 2 rows of 104 Box nails (.128x3*) at 12* o.c. Maximum end distance not to exceed 0*.         Criedres are designed to be supported on the bearings.       Eateral support       Eateral supported at the bearings.         Eateral stenderness ratio based on single ply width.       D       Locad Type       Location Trib Width       Side       Deed 0.9       Live 1       Snow 1.15       Wind 1.6       Const. 1.25       Comments         12 ateral stenderness ratio based on single ply width.       Top       500 PLF       0 PLF       0 PLF       0 PLF       0 PLF       A2         Seff Weight       7 PLF       ************************************	Analysis Actual Location Allowed Capacity Comb. Case Moment 3751 ft-lb 2'11" 14423 ft-lb 0.260 (26%) D+S L Unbraced 3751 ft-lb 2'11" 1110 ft-lb 0.338 (34%) D+S L Lbeft inch 0.028 (L/2318) 2'11" 0.136 (L/480) 0.338 (34%) D+S L L Deft inch 0.026 (L/2318) 2'11" 0.136 (L/480) 0.207 (21%) S L TL Deft inch 0.026 (L/2318) 2'11" 0.136 (L/480) 0.207 (21%) S L End Grain The estimate of the interior bearings by the building code. 2 Fasten all plies using 2 rows of 10d Box nails (128/X7) 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 laterally braced at end bearings. 7 Bottom must be laterally braced at end bearings. 8 Lateral stenderness ratio based on single ply width. D D Load Type Location Trib Width Side Dead 0.9 1 Uniform Top 500 PLF 0 PLF 0 PLF 0 PLF 0 PLF 0 PLF A2 Seff Weight 7 PLF	
toment 3751 ft-lb 2111 1423 ft-lb 0.260 (26%) D+S L hear 1915 lb 2111 1110 ft-lb 0.338 (34%) D+S L LDefl inch 0.028 (L2318) 2111 0.136 (L/480 0.207 (21%) S L LDefl inch 0.0267 (L/1151) 2111 0.136 (L/480 0.207 (21%) S L LDefl inch 0.057 (L/1151) 2111 0.136 (L/280) 0.313 (31%) D+S L sign Notes Frovide supported prevent lateral movement and rotation at the end bearings. Lateral support reaced 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not to exceed 67. Fasten all pies using 2 rows of 10d Box nails (.128x3") at 12° 0.c. Maximum end distance not fasten all pies using	Moment 3751 ft-lb 211" 14423 ft-lb 0.260 (26%) D+S L Unbraced 3751 ft-lb 211" 11110 ft-lb 0.338 (24%) D+S L Shear 1915 lb 4'9 34" 7943 lb 0.241 (24%) D+S L LL Defl inch 0.026 (L/2318) 2111" 0.136 (L/480) 0.207 (21%) S L TL Defl inch 0.057 (L/1151) 211" 0.138 (L/480) 0.207 (21%) S L TL Defl inch 0.057 (L/1151) 211" 0.138 (L/480) 0.217 (21%) S L esign Notes 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support nay also be required at the inferior 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 end bearings. 8 Lateral stendeness ratio based on single pl 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 Top 500 PLF 0 PLF 500 PLF 0 PLF 0 PLF A2 Self Weight 7 PLF	D+S
Inbraced       3751 ft-lb       211*       11110 ft-lb       0.338 (34%) D+S       L         Ibear       1915 lb       493 44*       7943 lb       0.241 (24%) D+S       L         L Defl inch       0.028 (L/2318)       211*       0.136 (L/480)       0.207 (21%) S       L         L Defl inch       0.057 (L/1151)       211*       0.136 (L/480)       0.237 (21%) S       L         sign Notes	Unbraced 3751 ft-lb 211" 11110 ft-lb 0.338 (34%) D+S L Shear 1915 lb 4'9 3/4" 7943 lb 0.241 (24%) D+S L L. Defl inch 0.028 (L/2318) 2'11" 0.138 (L/480) 0.207 (21%) S L resign Notes esign Notes FL Defl inch 0.057 (L/1151) 2'11" 0.182 (L/360) 0.313 (31%) D+S L esign Notes Flateral 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. Pasten all piles using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to axceed 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 piles. 6 Top must be laterally braced at end bearings. 8 Lateral siendemess ratio based on single ply width. D Load Type Location Trib Width Side Dead 0.9 1 Uniform Top 500 PLF 0 PLF 500 PLF 0 PLF 0 PLF A2 Self Weight 7 PLF of the compare that and the cord at end bearings. 1 Uniform Top 500 PLF 0 PLF 0 PLF 0 PLF A2 Self Weight 7 PLF	
L Defl inch 0.028 (L/2318) 2'11° 0.136 (L/480) 0.207 (21%) S L L Defl inch 0.057 (L/1151) 2'11° 0.182 (L/360) 0.313 (31%) D+S L sign Notes Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code. 1: Bateral all plies using 2 rows of 100 Box nalls (.128x3") at 12° o.c. Maximum end distance not to exceed 6°. 1: Gitchers are designed to be supported on the bottom edge only. 1: Top loads must be supported equally by all plies. 1: Top must be laterally braced at end bearings. 1: Lateral sienderness ratio based on single ply width. D Load Type Location Trib Width Side Dead 0.9 Live 1 Snow 1.15 Wind 1.6 Const. 1.25 Comments Uniform Top 500 PLF 0 PLF 0 PLF 0 PLF A2 Self Weight 7 PLF	LL Definich       0.028 (L/2318)       2'11"       0.136 (L/480)       0.207 (21%) S       L         TL Definich       0.057 (L/1151)       2'11"       0.182 (L/360)       0.313 (31%)       D+S       L         esign 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.e. 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       For must be laterally braced at end bearings.       5       Top use balarally braced at end bearings.       5       Top use balarally braced at end bearings.       5       Notes       1       Uniform       Top S00 PLF       0 PLF       500 PLF       0 PLF       0 PLF       0 PLF       0 PLF       A2         Addatad Success provide grouper dramage to prover         Manufacturer Info         Uniform       Top       500 PLF       0 PLF       0 PLF       0 PLF       A2         Self Weight       7 PLF	
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sign Notes         Provide support to prevent lateral movement and rotation at the end bearings. Lateral support         Provide support to prevent lateral movement and rotation at the end bearings. Lateral support         Practice all page of calculations for fasteners required for specified loads.         Griders are designed to be supported equally by all piles.         Top loads must be supported equally by all piles.         Top must be laterally braced at end bearings.         Bottom must be laterally braced at end bearings.         Lateral slenderness ratio based on single ply width.         D       Load Type         Uniform       Top         Self Weight       7 PLF         Outcome the set of the component based on single ply width.       0 PLF         O       Load Type         Uniform       Top         Self Weight       7 PLF         O       Context Int:         O       Load Type         Uniform       Top         Self Weight       7 PLF         O       Load Type         Uniform       Context or orbition         1. Users must not be cur or bitilition       1. Users must not be cur or bitilition         1. Users must not be cur or bitilition       1. Users must not be cur or bitilition         1. Users must not be cur	esign 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 equally by all plies.         6 Top nust be laterally braced at end bearings.         7 Bottom must be laterally braced at end bearings.         8 Lateral slenderness ratio based on single ply width.         D       Load Type         1 Uniform       Top 500 PLF         0 PLF       0 PLF         0 Self Weight       7 PLF	
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Self Weight     7 PLF       Nes     5 For flat roofs provide proper drainage to prover     Manufacturer Info       Nuclas dauguas of this component save bailing of shown in taken with the dimensions and loadings shown. It is shown and to verify the dimensions and loadings shown in the source of the dimensions and loadings shown. It is shown and to verify the dimensions and to verify the di	Self Weight     7 PLF       Notes     chemicals     6. For flat roofs provide proper drainage to prever fonding     Manufacturer Info     Contech. Inc. 1001 S. Reilly Road, Suite #635       Valculated Structured Designs is responsible only of the customer and/or the contractor to segoring installation requirements, multi-phi setung design, entering is antifacturer product information requirements, multi-phi setung design, beam strength values, and code is setung design beam strength values,	
And Substrate     chemicals     6. For flat roofs provide proper drainage to provent ponding     Manufacturer Info     Comtech, Inc. 1001 S. Relilly Road, Suite #639       Victural adequacy of this component based on trubral adequacy of this component based on the customer and/of the contradictor installation     1. VL beams must not be cut or drilled     Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 08651 (800) 622-5850     Comtech, Inc. 1001 S. Relilly Road, Suite #639       Pagarding installation regarding installation requirements, multi-ply fasting details, beams strugt values, and code approvals     B. Early restrained     Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 08651 (800) 622-5850     Vortech, Inc. 1001 S. Relilly Road, Suite #639       Dy service conditions, unless noted othervise UN not to be treated with fire relaradant or corrorski     B. Esign assumes top edge is laterally restrained B. Design assumes top edge is laterally restrained B. Design assumes top edge is laterally port at bearing points to avoid     Metsä Wood approvals     Comtech, Inc. 1001 S. Relilly Road, Suite #639	Iotes     chemicals     6. For flat roofs provide proper drainage to prevent     Manufacturer Info     Comtech, Inc.       alculated Structured Designs is responsible only of the sorpmonent suitable on thesign oriteria adequacy of this component suitable on the sponsibility of the customer and/or the contractor to sponsibility of the customer and/or the contractor to regarding installation requirements, beam strengh values, and code     6. For flat roofs provide proper drainage to prevent ponding     Mestä Wood     1001 S. Reilly Road, Suite #630       1. UV beams must not be cut or drilled     1. UV beams must not be cut or drilled     1. UV beams must not be cut or drilled     Sait 4     1001 S. Reilly Road, Suite #630       1. Burger to manufacturer's product information requirements, beam strengh values, and code     1. UV beams must not be cut or drilled     28314     910-864-TRUS	
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Uny service containons, inness noted currentwise 5. Provide lateral support at bearing points to avoid COMTECH	umber 3. Damaged Beams must not be used	
Lateral displacement and rotation This design is valid until 11/3/2024	Dry service conditions, unless noted otherwise     July not to be treated with fire relardant or corrosive     S. Provide lateral support at bearing points to avoid     Comments	есн

	Client: Watermark Homes		4/4/2023	Page 8 of 8
isDesign	Project: Address: Lot 39 Spring B	Input by Input by Johnston Job Nar		
	County	Project		
BM3 Kerto-S LVL	1.750" X 9.250"	2-Ply - PASSED	Level: Level	
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			<1 1/2"	9 1
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1 SPF End Grain		2 SPF End Grain		
†	5'4"	ł		3 1/2"
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Multi-Ply Analysis				
Fasten all plies using 2 rows of 1		o.c Maximum end distance	not to exceed 6".	
Capacity 0.0 % Load 0.0 F				
Yield Limit per Foot 163.	7 PLF			
Yield Limit per Fastener 81.9 Yield Mode IV	lb.			
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Min. End Distance 3" Load Combination				
Duration Factor 1.00				
Neter	chemicale	6 For flat roofs preside means delivery to a	Manufacturer Info	Comtech, Inc.
	chemicals andling & Installation	6. For flat roofs provide proper drainage to prevent ponding	Metsä Wood	<ul> <li>1001 S. Reilly Road, Suite #639</li> <li>Fayetteville, NC</li> <li>USA</li> </ul>
design criteria and loadings shown. It is the 2 responsibility of the customer and/or the contractor to	. LVL beams must not be cut or drilled . Refer to manufacturer's product information regarding installation requirements, multi-ply		301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851	28314 910-864-TRUS
ensure the component suitability of the intended application, and to verify the dimensions and loads. Lumber 3	fastening details, beam strength values, and code approvals . Damaged Beams must not be used		(800) 622-5850 www.metsawood.com/us	
4	Design assumes top edge is laterally restrained Provide lateral support at bearing points to avoid	<b></b>		соттесн
	lateral displacement and rotation	This design is valid until 11/3/2024		