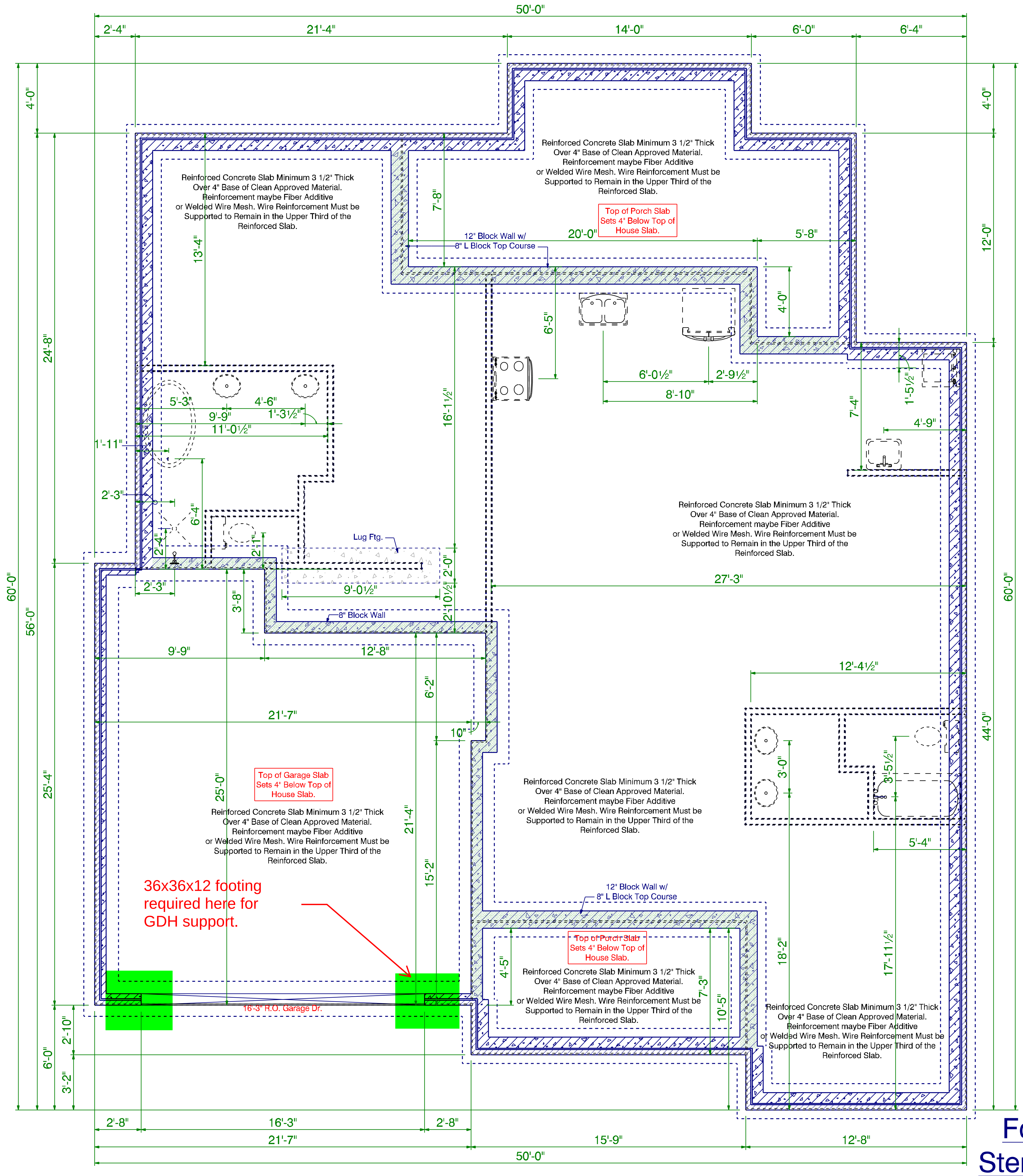
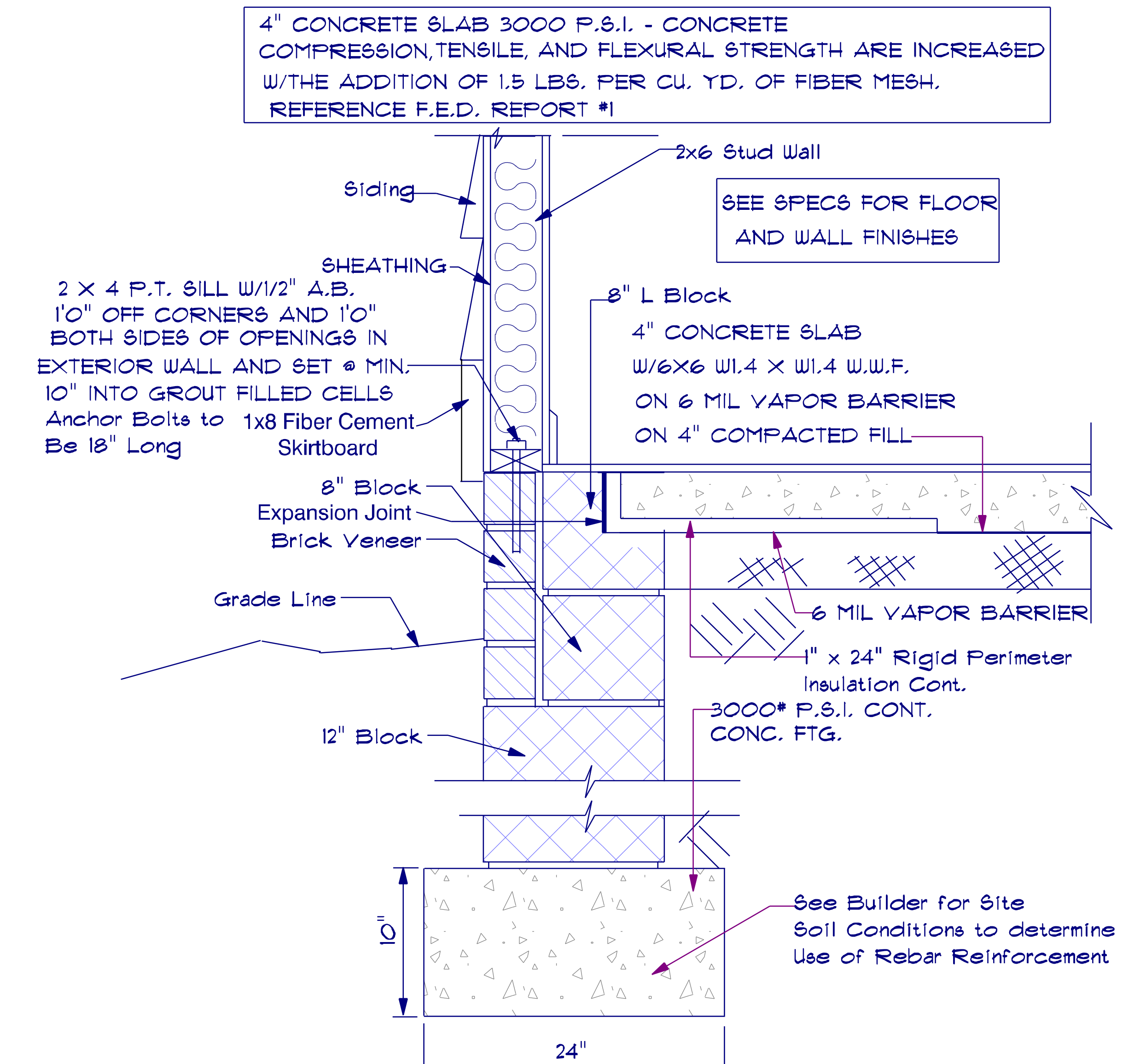


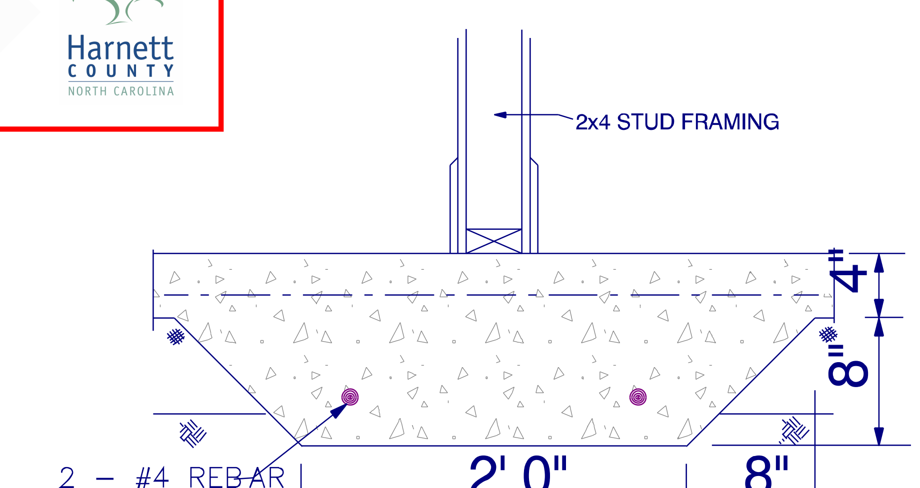
Foundation Stem Wall Slab

Scale: 1/4" =1'0"



Raised Slab Detail W/Brick

NOTICE TO CONTRACTOR
APPROVED
10/08/2024
Harnett COUNTY NORTH CAROLINA



TYP. LUG FOOTING

SCALE: 1" = 1'0"

Reinforced Concrete Slab Minimum 3 1/2" Thick Over 4" Base of Clean Approved Material. Reinforcement maybe Fiber Additive or Welded Wire Mesh. Wire Reinforcement Must be Supported to Remain in the Upper Third of the Reinforced Slab.

APPROVED BY | DATE

FRAZIER DESIGNS

MEMBER AIBD AMERICAN INSTITUTE of BUILDING DESIGN

Frazier Designs
A Residential Design Company
(910) 818-2413
www.frazierplans.com

Project: Fillion Stem Wall Slab

MODEL: Fillion

BUILDER:

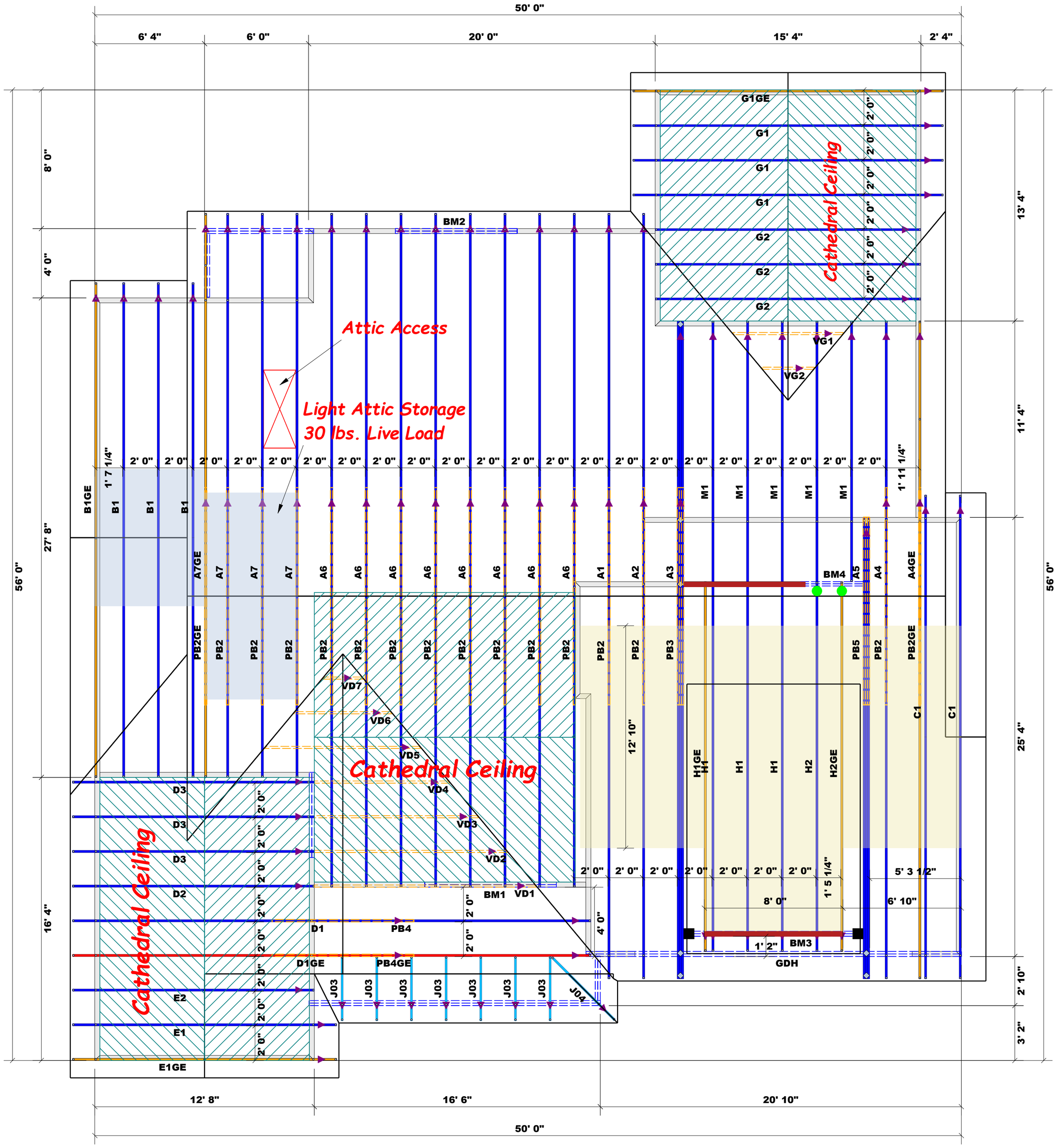
DATE PRINTED: Sept. 2024

DRAWN BY: ATF

Foundation Stem Wall Slab

SHEET

"I DO HEREBY CERTIFY THAT THIS DRAWING OR PLAN AND RELATED SPECIFICATIONS MEET ALL LOCAL REQUIREMENTS AND ARE IN SUBSTANTIAL CONFORMITY WITH BOTH SAH AND VA MINIMUM PROPERTY REQUIREMENTS INCLUDING THE INTERNATIONAL BUILDING CODE COUNCIL (2018 NC BUILDING CODE),ENERGY CONSERVATION STANDARDS OF THE 2018 COUNCIL OF AMERICAN BUILDING OFFICIALS,MODEL ENERGY CODE AND THE REQUIREMENT FOR LEAD-FREE PIPING.



HANGER LEGEND

■	= USP THD410 / Double Beam Hanger
●	= USP HUS26 / Single 2x Hanger

▲ = Denotes Left End of Truss
(Reference Engineered Truss Drawing)
Do Not Erect Trusses Backwards

Hatch Legend	
	2nd Floor Bearing Walls @ 8' 1/1/2"
	Bonus Room, 40 lbs. Live Load

Truss Placement Plan
SCALE: 1/4" = 1'

Beam Legend

PlotID	Length	Product	Plies	Net Qty	Fab Type
BM3	11' 0"	1-3/4"x 9-1/4" LVL Kerto-S	2	2	FF
BM1	8' 0"	1-3/4"x 9-1/4" LVL Kerto-S	2	2	FF
BM2	8' 0"	1-3/4"x 9-1/4" LVL Kerto-S	2	2	FF
GDH	22' 0"	1-3/4"x 23-7/8" LVL Kerto-S	2	2	FF
BM4	4' 0"	2x10 SP No.2	2	2	FF

LOAD CHART FOR JACK STUDS
(BASED ON TABLES R502.5(1) & (b))
NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADER/GIRDER

END REACTION (UP TO)	REQ'D STUDS FOR (2) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (3) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (4) PLY HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

BUILDER	GMC Construction	**CITY / CO.**	Fuquay-Varina / Wake
JOB NAME	Lot 5 River Rd.	**ADDRESS**	6332 River Rd.
PLAN	The Fillion / Brick	**MODEL**	Model
SEAL DATE	N/A	**DATE REV.**	08/19/24
QUOTE #	Quote #	**DRAWN BY**	Curtis Quick
JOB #	J0824-4611	**SALES REP.**	Scot Duncan

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.
These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.com

Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables (derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

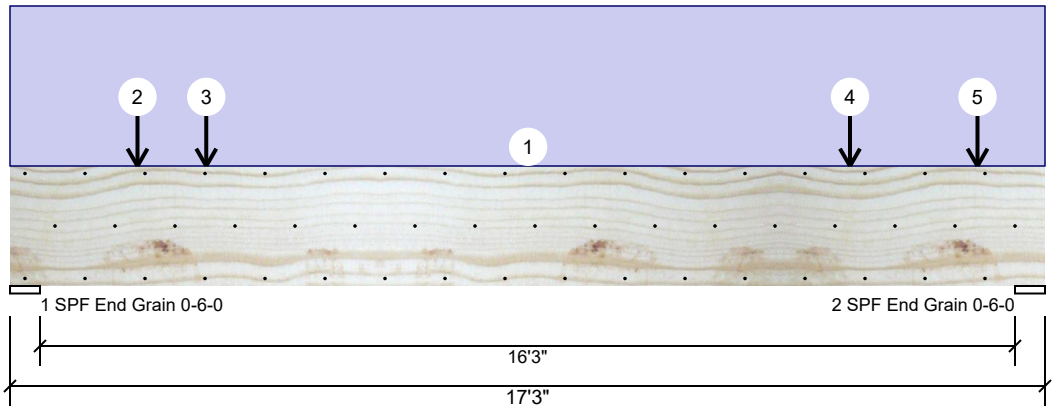
Signature Curtis Quick
Curtis Quick

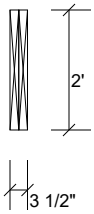
comTECH
ROOF & FLOOR TRUSSES & BEAMS
Reilly Road Industrial Park
Fayetteville, N.C. 28309
Phone: (910) 864-8787
Fax: (910) 864-4444

Client:	GMC Construction	Date:	8/23/2024
Project:		Input by:	Curtis Quick
Address:		Job Name:	Fillion Beams
		Project #:	

GDH (Brick) Kerto-S LVL 1.750" X 24.000" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	600	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	7145	6294	0	0
2	Vertical	0	7549	6698	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	6.000"	Vert	76%	7145 / 6294	13438	L	D+S
2 - SPF End Grain	6.000"	Vert	81%	7549 / 6698	14248	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	36660 ft-lb	8' 5/8"	84163 ft-lb	0.436 (44%)	D+S	L
Unbraced	36660 ft-lb	8' 5/8"	36690 ft-lb	0.999 (100%)	D+S	L
Shear	12875 lb	2'6"	20608 lb	0.625 (62%)	D+S	L
LL Defl inch	0.138 (L/1422)	8'7 1/8"	0.410 (L/480)	0.337 (34%)	S	L
TL Defl inch	0.301 (L/653)	8'7 1/4"	0.328 (L/600)	0.918 (92%)	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 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 4'10" o.c.
7 Bottom must be laterally braced at end bearings.
8 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			Top	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Brick
2	Point	2-1-8		Top	944 lb	0 lb	944 lb	0 lb	0 lb	A4
	Bearing Length	0-3-8								
3	Point	3-3-4		Top	5378 lb	0 lb	5378 lb	0 lb	0 lb	A5

Continued on page 2...

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

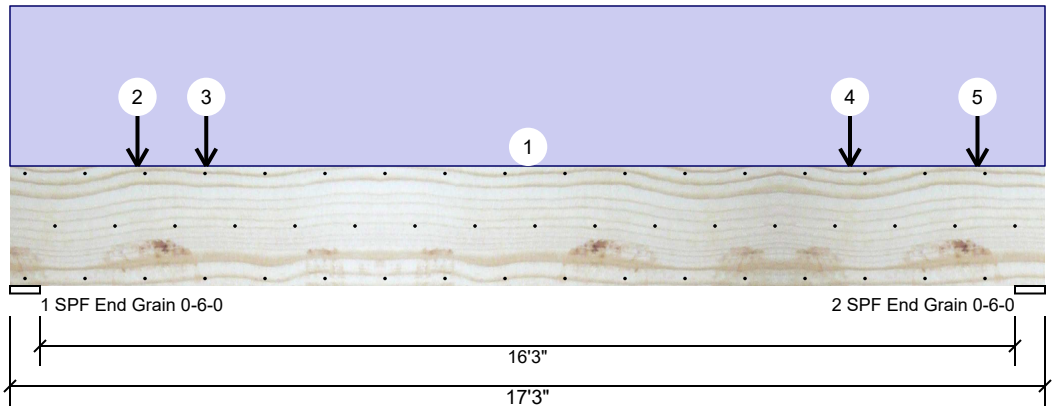
Manufacturer Info

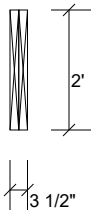
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:	GMC Construction	Date:	8/23/2024
Project:		Input by:	Curtis Quick
Address:		Job Name:	Fillion Beams
		Project #:	

GDH (Brick) Kerto-S LVL 1.750" X 24.000" 2-Ply - PASSED

Level: Level





...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	Bearing Length	0-3-11								
4	Point	14-0-0		Top	5542 lb	0 lb	5542 lb	0 lb	0 lb	A3
	Bearing Length	0-3-12								
5	Point	16-1-8		Top	1128 lb	0 lb	1128 lb	0 lb	0 lb	A2
	Bearing Length	0-3-8								
	Self Weight				19 PLF					

Notes

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Lumber

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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www.metsawood.com/us

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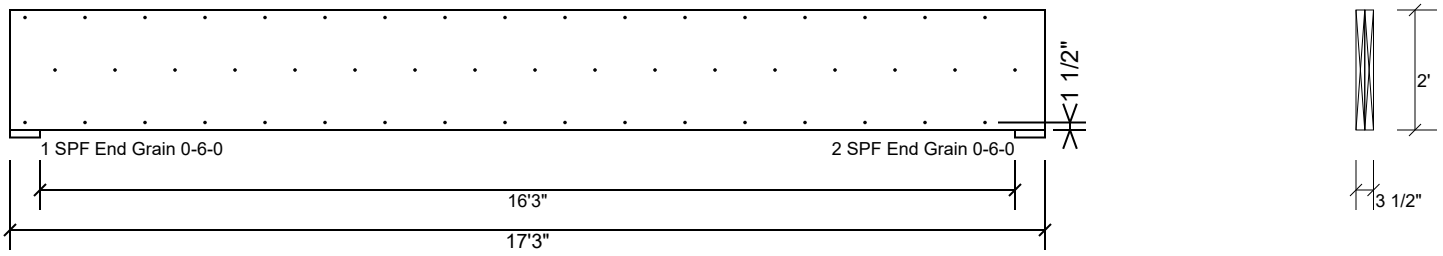
Level: Level



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.
C_M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

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.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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
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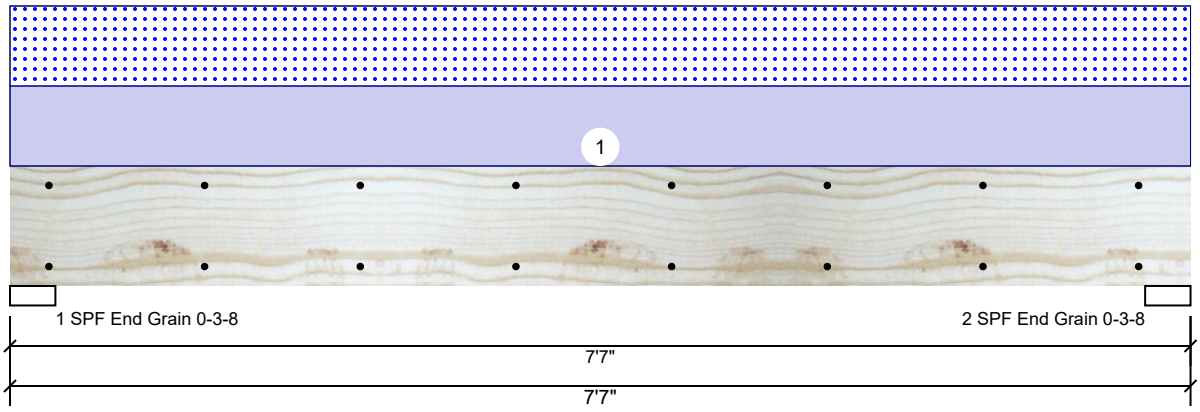
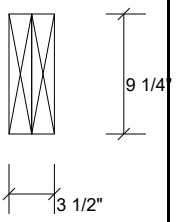
Client:	GMC Construction	Date:	8/23/2024
Project:		Input by:	Curtis Quick
Address:		Job Name:	Fillion Beams
		Project #:	

BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1438	1411	0	0
2	Vertical	0	1438	1411	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	28%	1438 / 1411	2848	L	D+S
2 - SPF End Grain	3.500"	Vert	28%	1438 / 1411	2848	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4767 ft-lb	3'9 1/2"	14423 ft-lb	0.330 (33%)	D+S	L
Unbraced	4767 ft-lb	3'9 1/2"	9518 ft-lb	0.501 (50%)	D+S	L
Shear	2056 lb	1' 3/4"	7943 lb	0.259 (26%)	D+S	L
LL Defl inch	0.055 (L/1551)	3'9 9/16"	0.178 (L/480)	0.309 (31%)	S	L
TL Defl inch	0.111 (L/768)	3'9 9/16"	0.238 (L/360)	0.469 (47%)	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 end bearings.
7. Bottom must be laterally braced at end bearings.
8. 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			Top	372 PLF	0 PLF	372 PLF	0 PLF	0 PLF	A6
	Self Weight				7 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.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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
6. For flat roofs provide proper drainage to prevent ponding

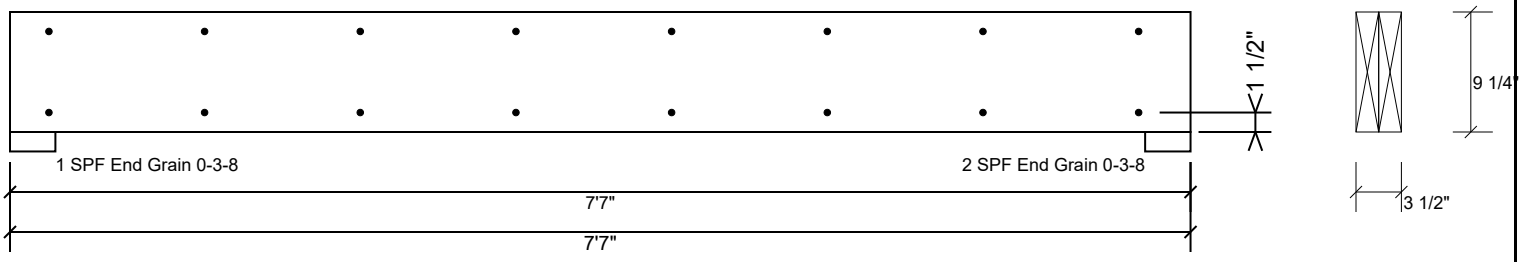
This design is valid until 6/28/2026

Manufacturer Info

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

BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

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".

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

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.

Lumber

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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Norwalk, CT 06851
(800) 622-5850
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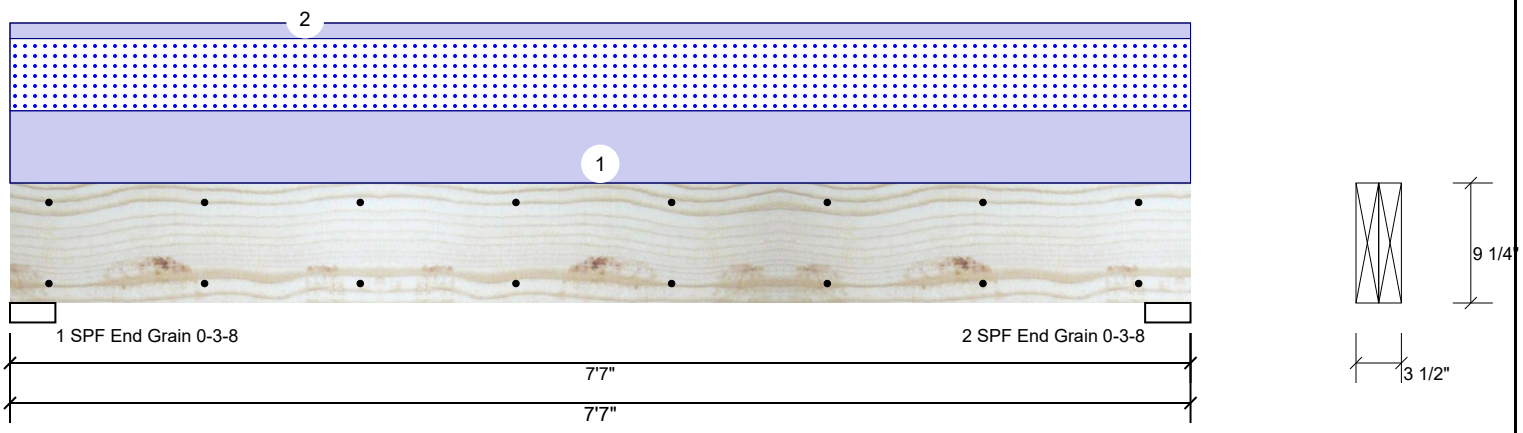
BM1 (Brick) Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	600	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1741	1411	0	0
2	Vertical	0	1741	1411	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	31%	1741 / 1411	3152	L	D+S
2 - SPF End Grain	3.500"	Vert	31%	1741 / 1411	3152	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5275 ft-lb	3'9 1/2"	14423 ft-lb	0.366 (37%)	D+S	L
Unbraced	5275 ft-lb	3'9 1/2"	9518 ft-lb	0.554 (55%)	D+S	L
Shear	2274 lb	1' 3/4"	7943 lb	0.286 (29%)	D+S	L
LL Defl inch	0.055 (L/1551)	3'9 9/16"	0.178 (L/480)	0.309 (31%)	S	L
TL Defl inch	0.123 (L/694)	3'9 9/16"	0.142 (L/600)	0.864 (86%)	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 end bearings.
7 Bottom must be laterally braced at end bearings.
8 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			Top	372 PLF	0 PLF	372 PLF	0 PLF	0 PLF	A6
2	Uniform			Top	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Brick
	Self Weight				7 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.

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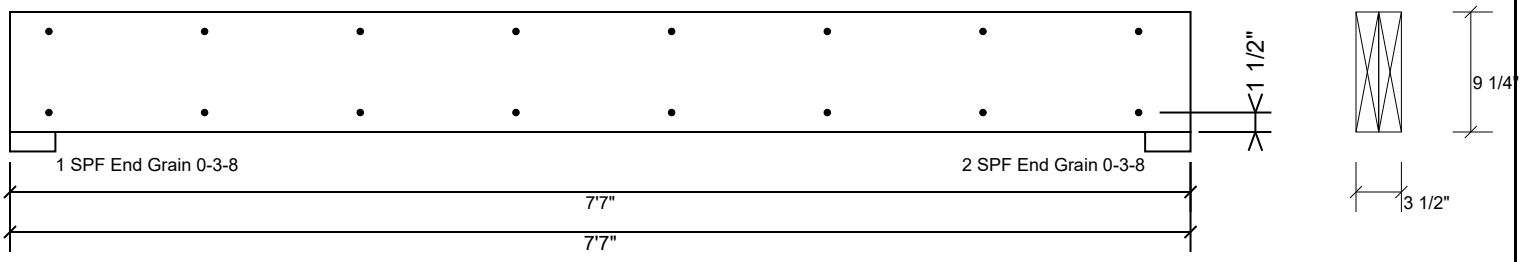
BM1 (Brick) Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

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".

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

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.

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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
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

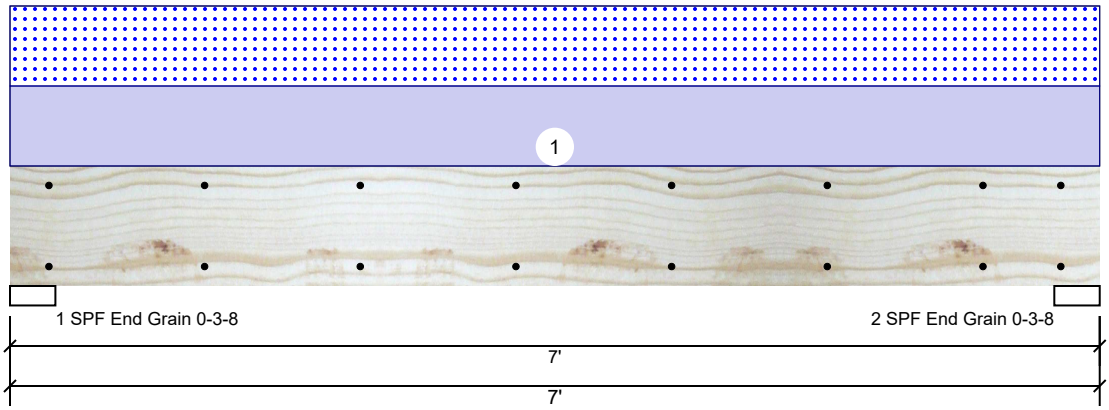
Manufacturer Info

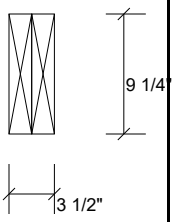
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:	GMC Construction	Date:	8/23/2024
Project:		Input by:	Curtis Quick
Address:		Job Name:	Fillion Beams
		Project #:	

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1387	1362	0	0
2	Vertical	0	1387	1362	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	27%	1387 / 1362	2748	L	D+S
2 - SPF End Grain	3.500"	Vert	27%	1387 / 1362	2748	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4200 ft-lb	3'6"	14423 ft-lb	0.291 (29%)	D+S	L
Unbraced	4200 ft-lb	3'6"	10052 ft-lb	0.418 (42%)	D+S	L
Shear	1919 lb	1' 3/4"	7943 lb	0.242 (24%)	D+S	L
LL Defl inch	0.042 (L/1864)	3'6"	0.164 (L/480)	0.258 (26%)	S	L
TL Defl inch	0.085 (L/923)	3'6"	0.218 (L/360)	0.390 (39%)	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 end bearings.
7 Bottom must be laterally braced at end bearings.
8 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			Top	389 PLF	0 PLF	389 PLF	0 PLF	0 PLF	A5
	Self Weight				7 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.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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
6. For flat roofs provide proper drainage to prevent ponding

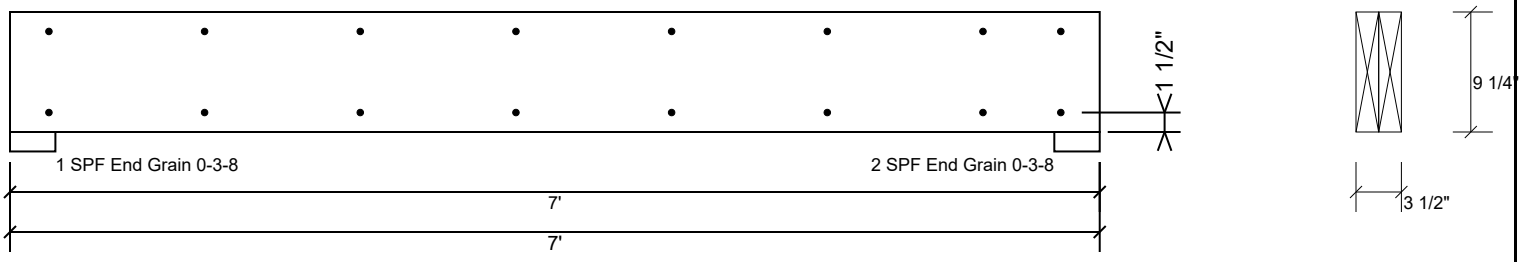
This design is valid until 6/28/2026

Manufacturer Info

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

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

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".

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

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.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

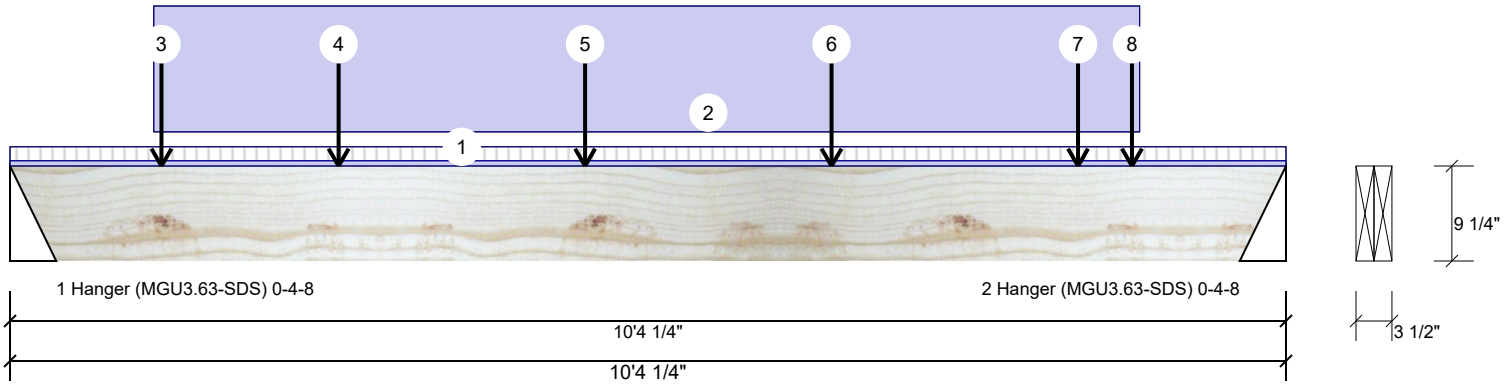
Manufacturer Info

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

Client:	GMC Construction	Date:	8/23/2024
Project:		Input by:	Curtis Quick
Address:		Job Name:	Fillion Beams
		Project #:	

BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	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 - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	138	1749	1179	0	0
2	Vertical	138	1923	1355	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.500"	Vert	22%	1749 / 1179	2929	L	D+S
2 - Hanger	4.500"	Vert	25%	1923 / 1355	3278	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7273 ft-lb	4'8"	14423 ft-lb	0.504 (50%)	D+S	L
Unbraced	7273 ft-lb	4'8"	7582 ft-lb	0.959 (96%)	D+S	L
Shear	3263 lb	9'2 1/2"	7943 lb	0.411 (41%)	D+S	L
LL Defl inch	0.116 (L/1003)	5'2 1/8"	0.243 (L/480)	0.478 (48%)	S	L
TL Defl inch	0.296 (L/394)	5'2 1/8"	0.486 (L/240)	0.609 (61%)	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. Fill all hanger nailing holes.
3. Left Header: SPF, Thickness: 3 1/2"
4. Right Header: SPF, Thickness: 3 1/2"
5. Girders are designed to be supported on the bottom edge only.
6. Multiple plies must be fastened together as per manufacturer's details.
7. Top loads must be supported equally by all plies.
8. Top must be laterally braced at end bearings.
9. Bottom must be laterally braced at end bearings.
10. 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	Tie-In Far	0-0-0 to 10-4-4	0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor
1	Tie-In Near	0-0-0 to 10-4-4	0-0-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor
2	Part. Uniform	1-2-0 to 9-2-0		Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
3	Point	1-2-12		Top	419 lb	0 lb	419 lb	0 lb	0 lb	H2GE

Continued on page 2...

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

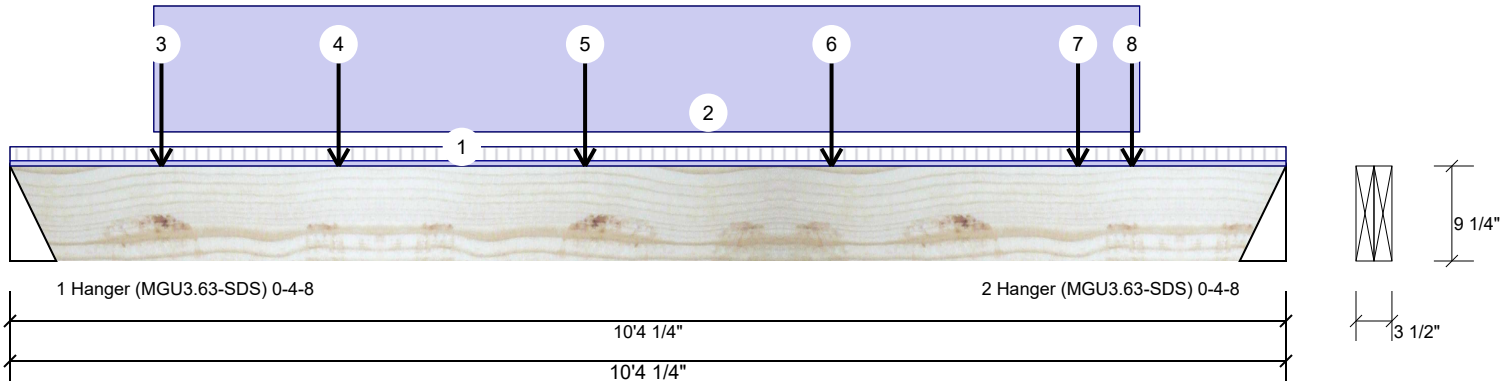
Manufacturer Info

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

Client:	GMC Construction	Date:	8/23/2024
Project:		Input by:	Curtis Quick
Address:		Job Name:	Fillion Beams
		Project #:	

BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	Bearing Length	0-3-8								
4	Point	2-8-0		Top	419 lb	0 lb	419 lb	0 lb	0 lb	H2
	Bearing Length	0-3-8								
5	Point	4-8-0		Top	424 lb	0 lb	424 lb	0 lb	0 lb	H1
	Bearing Length	0-3-8								
6	Point	6-8-0		Top	424 lb	0 lb	424 lb	0 lb	0 lb	H1
	Bearing Length	0-3-8								
7	Point	8-8-0		Top	424 lb	0 lb	424 lb	0 lb	0 lb	H1
	Bearing Length	0-3-8								
8	Point	9-1-4		Top	424 lb	0 lb	424 lb	0 lb	0 lb	H1GE
	Bearing Length	0-3-8								
	Self Weight				7 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.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

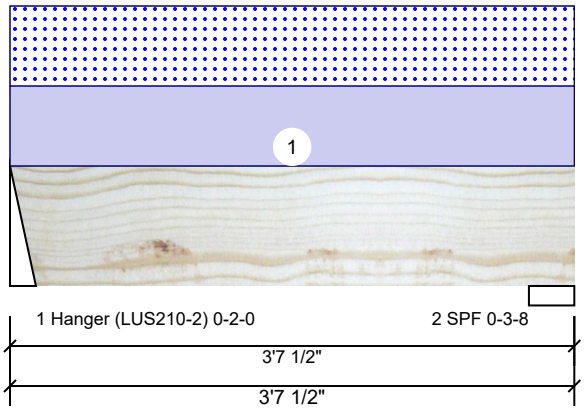
Manufacturer Info

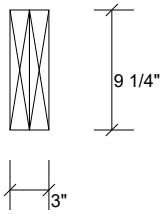
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:	GMC Construction	Date:	8/23/2024
Project:		Input by:	Curtis Quick
Address:		Job Name:	Fillion Beams
		Project #:	

BM4 S-P-F #2 2.000" X 10.000" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	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 - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	364	364	0	0
2	Vertical	0	390	390	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	29%	364 / 364	728	L	D+S
2 - SPF	3.500"	Vert	17%	390 / 390	780	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	563 ft-lb	1'9"	3946 ft-lb	0.143 (14%)	D+S	L
Unbraced	563 ft-lb	1'9"	3809 ft-lb	0.148 (15%)	D+S	L
Shear	338 lb	11 1/4"	2872 lb	0.118 (12%)	D+S	L
LL Defl inch	0.002 (L/19915)	1'9"	0.082 (L/480)	0.024 (2%)	S	L
TL Defl inch	0.004 (L/9958)	1'9"	0.165 (L/240)	0.024 (2%)	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. Fill all hanger nailing holes.
3. Left Header: SPF, Thickness: 3 1/2"
4. Girders are designed to be supported on the bottom edge only.
5. Multiple plies must be fastened together as per manufacturer's details.
6. Top loads must be supported equally by all plies.
7. Top must be laterally braced at end bearings.
8. Bottom must be laterally braced at end bearings.
9. 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			Top	208 PLF	0 PLF	208 PLF	0 PLF	0 PLF	H2

Manufacturer Info

This design is valid until 6/28/2026