



April 23, 2024

Attn: Robert Lindsey (Walker Custom Homes)

RE: Inspection Letter – Hook Farms Lot 109, 2143 SW Hook Farm Dr., Lee’s Summit, MO

Vista Structural Engineering, LLC was asked to address the following rough-in inspection items for the project located at the above referenced address. Please see the following responses with attached calculations and site photos for reference.

- 1. Inspection comment: Address over span header in master bedroom per table 602.7.

Vista Structural’s Response: (2) 36” windows at master bedroom were replaced with (1) 8’-6” window opening with a (2) 2x10 header. **(2) 2x10 header is acceptable for 8’-6” span – no structural upgrade required.** Re. calculation and site photo attached.

- 2. Inspection comment: Address over notched floor joists above BR4 for dropped shower entry

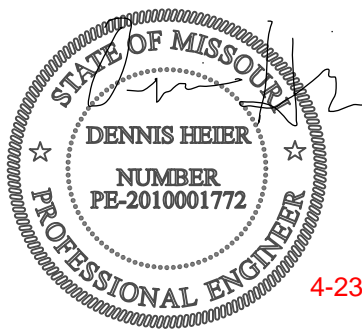
Vista Structural’s Response: Double 2x10 floor joists @ 16” o.c. were notched for shower entry. **Notched double joists are acceptable – no structural upgrade required.** Floor joists were checked conservatively for reduced depth (2”). Re. calculation and site photo attached.

Our firm appreciates the opportunity to serve you. If you have any questions or if you need anything further, please feel free to contact us.

Sincerely,

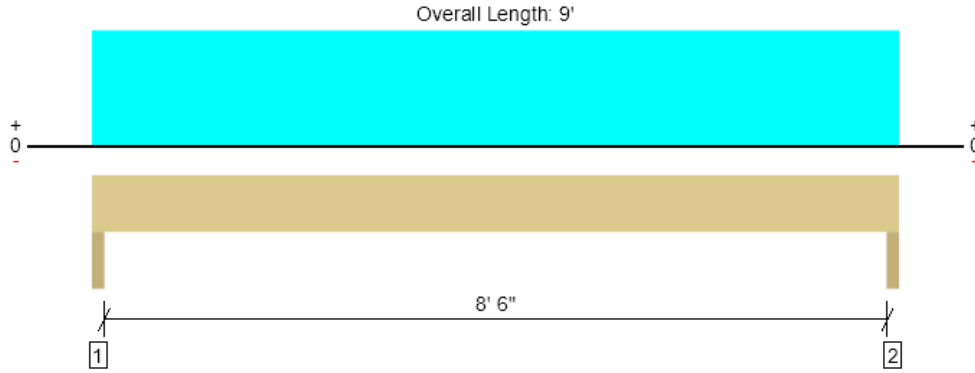
Vista Structural Engineering, LLC

Dennis Heier, P.E.



4-23-24

MAIN CEILING, (2) 2x10 HDR
2 piece(s) 2 x 10 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1322 @ 1' 1/2"	5625 (3.00")	Passed (23%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	1022 @ 1' 1/4"	3830	Passed (27%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	2811 @ 4' 6"	4059	Passed (69%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.075 @ 4' 6"	0.292	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.122 @ 4' 6"	0.438	Passed (L/858)	--	1.0 D + 1.0 S (All Spans)

Member Length : 9'
System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Factored	
1 - Trimmer - DF	3.00"	3.00"	1.50"	515	806	1322	None
2 - Trimmer - DF	3.00"	3.00"	1.50"	515	806	1322	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	9' o/c	
Bottom Edge (Lu)	9' o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 9'	N/A	7.0	--	
1 - Uniform (PSF)	0 to 9'	7' 2"	15.0	25.0	ROOF

Weyerhaeuser Notes

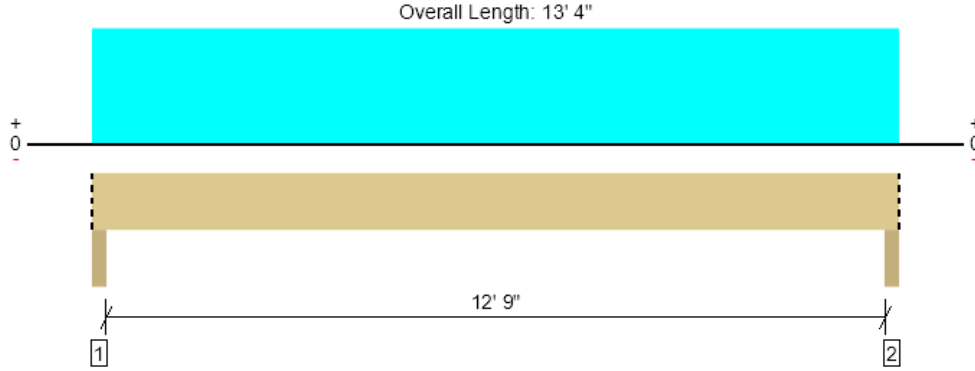
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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Dennis Nguyen Vista Structural Engineering LLC (503) 515-1124 dn@vistastructural.com	



MAIN CEILING, (2) 2x10 (NOTCHED FOR DROP SHOWER)
2 piece(s) 2 x 8 DF No.2 @ 16" OC



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	622 @ 13' 1 1/2"	4463 (3.50")	Passed (14%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	539 @ 10 3/4"	2610	Passed (21%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	1946 @ 6' 8"	2720	Passed (72%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.219 @ 6' 8"	0.431	Passed (L/707)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.383 @ 6' 8"	0.646	Passed (L/404)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	N/A	N/A	N/A	--	N/A

Member Length : 13' 4"
System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.
- No composite action between deck and joist was considered in analysis.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Beam - DF	3.50"	3.50"	1.50"	267	356	622	Blocking
2 - Beam - SPF	3.50"	3.50"	1.50"	267	356	622	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	13' 4" o/c	
Bottom Edge (Lu)	13' 4" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 13' 4"	16"	30.0	40.0	FLOOR

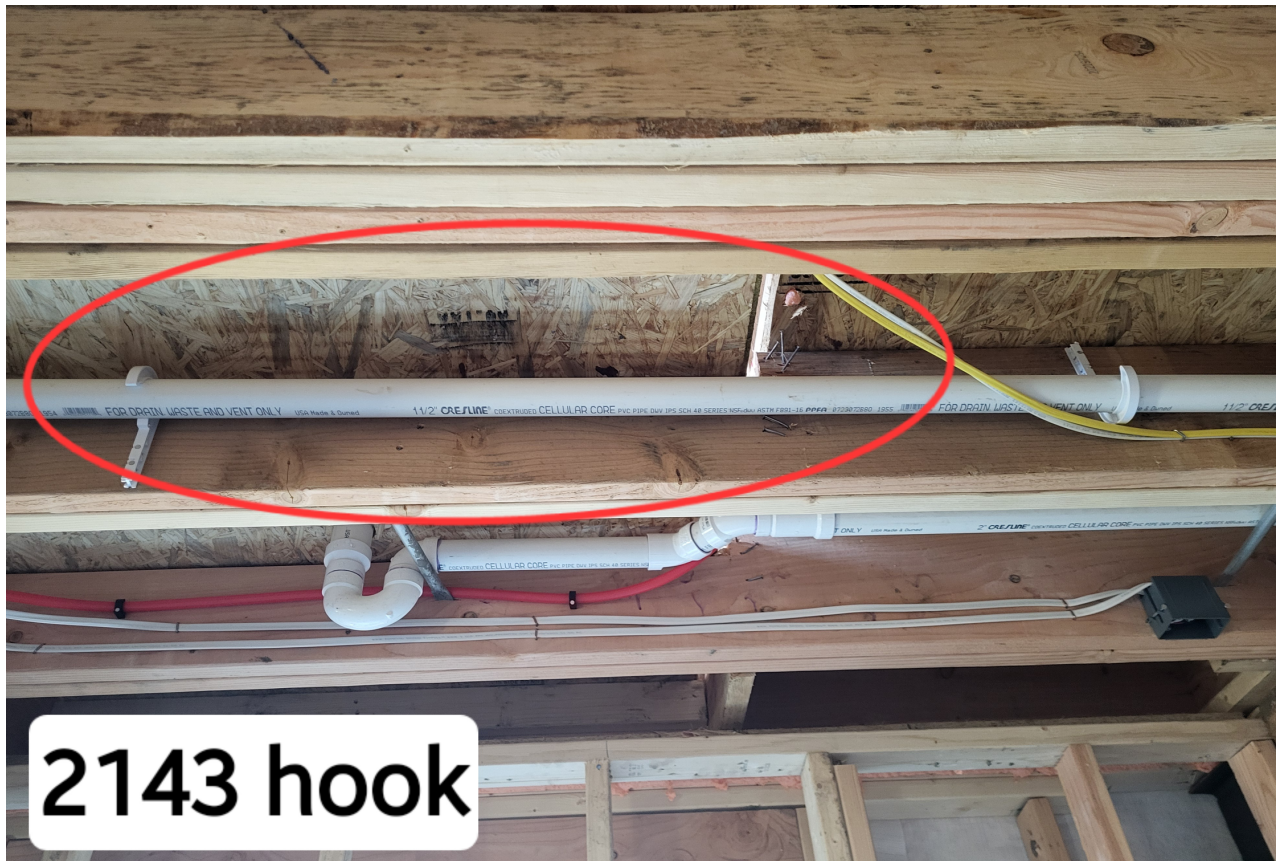
Weyerhaeuser Notes

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NOTCHED DOUBLE FLOOR JOISTS AT SHOWER ENTRY

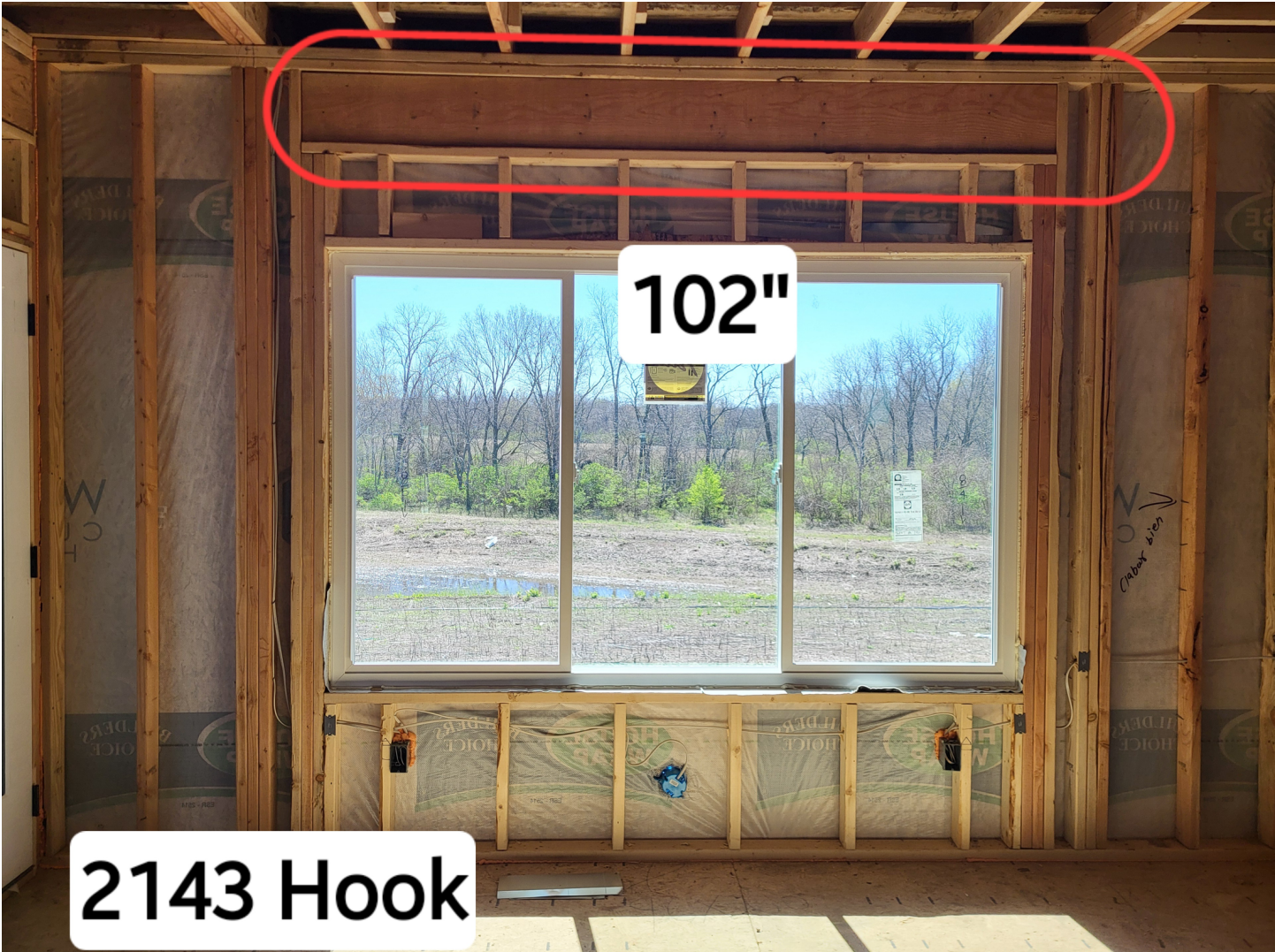


PHOTO 1 - MASTER BEDROOM WINDOW HEADER