



December 21st, 2023

Bellah Homes
Attn: Zach Speake

RE: Lot 121, 3254 SW Pergola Park Dr. – Field Change Letter (Steel Columns at Type G Footing)

Vista Structural Engineering, LLC was asked to evaluate the use of 3 ½" dia. Sch. 40 steel columns in lieu of the 4" dia. Sch. 40 steel columns specified for Type G footings for the referenced project address above. Please see the following for VSE's response:

VSE Response: *VSE has analyzed the point loading for the 3 ½" dia. steel columns and approves the use of the 3 ½" dia. Sch. 40 steel columns in lieu of the Type G 4" dia. Sch. 40 steel columns. Type G footing size to remain the same per plan.* Please see attached plan markup on pg. 2 and calculations on pgs. 3-5.

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.



Steel Column

Lic. # : KW-06010523

DESCRIPTION: Steel column in basement - 3 1/2" installed in lieu of 4" diameter column

Extreme Reactions

Item	Extreme Value	Axial Reaction		X-X Axis Reaction		k	Y-Y Axis Reaction		Mx - End Moments		k-ft	My - End Moments	
		@ Base		@ Base	@ Top		@ Base	@ Top	@ Base	@ Top		@ Base	@ Top
Reaction, X-X Axis Base	Maximum		0.113										
"	Minimum		0.113										
Reaction, Y-Y Axis Base	Maximum		0.113										
"	Minimum		0.113										
Reaction, X-X Axis Top	Maximum		0.113										
"	Minimum		0.113										
Reaction, Y-Y Axis Top	Maximum		0.113										
"	Minimum		0.113										
Moment, X-X Axis Base	Maximum		0.113										
"	Minimum		0.113										
Moment, Y-Y Axis Base	Maximum		0.113										
"	Minimum		0.113										
Moment, X-X Axis Top	Maximum		0.113										
"	Minimum		0.113										
Moment, Y-Y Axis Top	Maximum		0.113										
"	Minimum		0.113										

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection		Distance		Max. Y-Y Deflection		Distance	
D Only	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+L	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+0.750L	0.0000	in	0.000	ft	0.000	in	0.000	ft
+0.60D	0.0000	in	0.000	ft	0.000	in	0.000	ft
L Only	0.0000	in	0.000	ft	0.000	in	0.000	ft

Steel Section Properties : Pipe3-1/2xS

Depth	=	4.000 in	I xx	=	5.94 in^4	J	=	11.900 in^4
			S xx	=	2.97 in^3			
Diameter	=	4.000 in	R xx	=	1.310 in			
Wall Thick	=	0.318 in	Zx	=	4.070 in^3			
Area	=	3.430 in^2	I yy	=	5.940 in^4			
Weight	=	12.500 plf	S yy	=	2.970 in^3			
			R yy	=	1.310 in			
Ycg	=	0.000 in						

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Sketches

