TOWN OF BELMONT ZONING BOARD OF APPEALS

RECEIVED TOWN CLERK BELMONT, MA

2019 MAR -8 AM II: 13

CASE NO.

18-47

APPLICANT:

HCR Construction Brian Powderly, Agent = Comment

PROPERTY:

25 Greybirch Circle

DATE OF PUBLIC HEARING:

December 3, 2018

MEMBERS SITTING:

Nick Iannuzzi, Chairman

Jim Zarkadas Andrew Plunkett

Casey Williams, Associate Member Blake Currier, Associate Member

MEMBERS VOTING:

Nick Iannuzzi, Chairman

Jim Zarkadas Andrew Plunkett

Casey Williams, Associate Member Blake Currier, Associate Member

Introduction

This matter came before the Board of Appeals ("Board") of the Town of Belmont ("Town") acting as Variance and Special Permit Granting Authority under the Zoning By-Law of the Town of Belmont, Massachusetts ("By-Law") and Chapter 40A of the Massachusetts General Law ("Zoning Act"). The Applicant HCR Construction, Brian Powderly, agent ("Applicant") requests One Special Permit under Section 4.2.2 A. 7 of the Zoning By-Laws to reduce the rear setback requirements to not less than then side requirements to construct a new single family structure. The required rear setback is 40.0', the rear setback of the existing building is 26.4', the proposed rear setback for the new structure is 30.0' at 25 Greybirch Circle located in a Single Residence A (SRA) Zoning District.

The Board held a duly noticed hearing on the application on December 3, 2018, The Applicant, Brian Powderly made a presentation to the Board.

Proposal

The applicant proposes to tear down the existing ranch structure and build a new two and a half story building. The proposed structure is in compliance with all the intensity regulations of the Town of Belmont Zoning By-Laws with the exception of one of the rear setbacks. The property is on a corner lot. §4.2.2A-7 of the By-Law allows the Zoning Board of Appeals to allow a reduced rear setback for corner lots to not less than the required side setback requirement, in this district 15.0'.

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Case # 18-47

Address: 25 Greybirch Circle

Gregg Haladyna, on behalf of the owner residing at 15 Greybirch Circle, although in support of the proposed project raised 3 concerns. 1. That the new structure be constructed at the location proposed on the plans and the plot plan submitted by the applicant. 2. That no windows be allowed on the second floor of the West elevation and 3. No additional water be discharged to their property in result of this new construction.

The Board responded to the raised concerns as follows. 1. It is a requirement by the Office of Community Development to receive an as-built plot plan when the foundation walls are constructed, and that to adhere to the original proposal is mandatory. 2. The Board does not regulate any window installments or finishes and such a condition would unlawful. 3. The property is located in an area protected by conservation laws and that such laws prohibit storm damage and downstream and off-site flooding.

Conclusion

On December 3rd, 2018, the Board deliberated on The Applicant, HCR Construction, Brian Powderly, Agent's ("Applicant") request for One Special Permit under Section 4.2.2 A. 7 of the Zoning By-Laws to reduce the rear setback requirements to not less than the side requirements to construct a new structure. The required rear setback is 40.0' and the proposed is 30.0' at 25 Greybirch Circle located in a Single Residence A (SRA) Zoning District.

Based on the foregoing factors, the Board determined that the applicant's proposal did not have any adverse effects to the Town or the neighborhood and that the proposed request will be in harmony with the neighborhood and general purpose and intent of the By-law.

Accordingly, upon motion duly made by Chair Nick Ianuzzi and seconded by Jim Zarkadas, the Board voted 5-0 to grant the Applicant One (1) Special Permit as requested.

For the Board:

Dated: March 8, 2019

Ara Yogurtian Assistant Director

Office of Community Development

CERTIFICATION

I, Ellen O'Brien Cushman, hereby certify that twenty (20) days have elapsed after the decision was filed in the office of the Belmont Town Clerk on March 8, 2019, and further I certify that no appeal has been filed with regard to the granting of said one (1) Special Permit with zero (0) conditions.

May 23, 2019

Ellen O'Brien Cushman, Town Clerk Belmont, MA



Zoning Compliance Check List (Registered Land Surveyor)

Property Address: 25 GREYBIRCH CIRCLE Zone: SR-A

Surveyor Signature and Stamp: Date: 3/5/2018

	REQUIRED	EXISTING	PROPOSED
Lot Area	25,000 SF	13.2285F	13,228 SF
Lot Frontage	125 FT.	192.62FT.	
Floor Area Ratio	N/A	NA	192,62FT
Lot Coverage	20070 MAX		NA
Open Space	50% MIN	76%	18 90
Front Setback	30FT.	26,5 PJ.	73%
Side Setback	1515		30.3FT.
Side Setback	N/A	10.8FT.	15.3FT.
Rear Setback	40FT.	26.4FT.	N/A
Building Height	36FT. MAX		30.3 FT. 25.4 PT.
Stories	21/2 MAX.	13.7FT.	
½ Story Calculation	12 MAX.		21/2 MAX
BOEMPUT CH	213.17 BF	205.5 Ave Gr	LDE 211.5
which Leaves	78% BEIOW	brane	

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ZONING	BOA	CASE	1847	DEC. 3,7018	





220 Occidental Ave. S., Seattle, WA 98104 888-453-8358 x6131

April 12, 2019

Matt Rimkus Chelmsford Lumber 201 Boston Road Chelmsford, MA 01824

Subject:

Tech Call #: 100488

25 Grey Birch Belmont, MA

Attached are Trus Joist® structural member calculations for the referenced project. The attached calculations were prepared using accepted design values for Trus Joist® products and software analysis in conformance with accepted engineering practices. With respect to design values for Trus Joist® products as well as conditions of use, and design and installation guidance, please refer to International Code Council Evaluation Reports ICC-ES ESR-1153 and ESR-1387; ICC reports can be obtained via the Internet at www.icc-es.org.

The attached calculations are provided as a supplement to the work of the project designer. The product application, input design loads, dimensions and support information have been provided by **Matt Rimkus – Chelmsford Lumber**. I have not reviewed the project plans or field conditions. The proper authority is to review the calculation inputs and confirm they are consistent with the intent of the overall building design. If the attached calculations are not consistent with the building design, they should be rejected or returned to us to be corrected.

The calculations apply only to Trus Joist® products for the referenced project. Uniformly loaded joist members verifiable through product literature span charts may not have been included in this package.

Neither the undersigned engineer nor Weyerhaeuser NR Company is acting as the engineer of record for the referenced project. Weyerhaeuser warrants that the sizing of its products as set forth in the calculation will be in accordance with Weyerhaeuser product design criteria and published design values.

Please call if you be velant question

Cordially,

Jason O. Shun aker, RE.53 Product Support WOL

Digitally signed by Jason Shumaker DN: c=US, st=Ohio, l=Pickerington, o=Weyerhaeuser, ou=Product Support Engineer, cn=Jason Shumaker, email=Jason.Shumaker@Weyerhaeuser.com Date: 2019.04.12 07:02:41 -04'00'

Signed for attached Forte® Member Calculations dated:

4/10/2019 2:13:56 PM

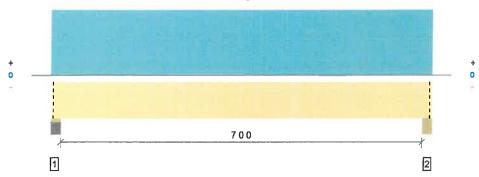


JOB SUMMARY REPORT 25 Grey Birch Belmont Ma.4te

01: Basement beams			
Member Name	ame Results Current Solution		Comments
basement girder left	Passed	3 Piece(s) 1 3/4" x 9 1/2" 2.0E Microllam® LVL	
basement girder right	Passed	3 Piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL	
02: 2nd floor beams			
Member Name	Results	Current Solution	Comments
beam betw LR and FR	Passed	3 Piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL	
beam over pantry and stair	Passed	2 Piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL	
Beam over dining room	Passed	3 Piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL	
garage beams	Passed	4 Piece(s) 1 3/4" x 18" 2.0E Microllam® LVL	
garage header	Passed	2 Piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL	
03: attic beams			
Member Name	Results	Current Solution	Comments
beam over bedroom 4	Passed	4 Piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL	
beam over stair and br4 and 5 shared bath	Passed	3 Piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL	
beam over bedroom 2	Passed	4 Piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL	

Forte Software Operator	Job Notes	
Matthew Rimkus Chelmsford Lumber (978) 244-0222 mattrimkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma	

Overall Length: 7 11 0



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

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	7519 @ 0 4 0	16314 (5.50")	Passed (46%)		1.0 D + 1.0 L (All Spans)
Shear (lbs)	5145 @ 1 3 0	9476	Passed (54%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	12481 @ 3 11 8	17662	Passed (71%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.121 @ 3 11 8	0.242	Passed (L/717)		1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.186 @ 3 11 8	0.363	Passed (L/467)		1.0 D + 1.0 L (All Spans)

System : Floor

Member Type : Drop Beam Building Use : Residential Building Code : IBC 2012 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 7 11 0 o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 7 11 0 o/c unless detailed otherwise.

	Bearing			Loads to Supports (lbs)			
Supports	Total	Available	Required	Dead	Floor Live	Total	Accessories
1 - Plate on concrete - SYP	5.50"	5.50"	2.53"	2621	4898	7519	Blocking
2 - Column - SPF	5.50"	5.50"	1.98"	2621	4898	7519	Blocking

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 0 0 to 7 11 0	N/A	14.5		
1 - Uniform (PSF)	0 0 0 to 7 11 0 (Front)	13 9 0	12.0	40.0	Residential - Living Areas
2 - Uniform (PSF)	0 0 0 to 7 11 0 (Front)	13 9 0	12.0	30.0	Residential - Living Areas
3 - Uniform (PSF)	0 0 0 to 7 11 0 (Front)	13 9 0	10.0	20.0	Residential - Living Areas
4 - Uniform (PLF)	0 0 0 to 7 11 0 (Front)	N/A	95.0	-	
5 - Uniform (PLF)	0 0 0 to 7 11 0 (Front)	N/A	85.0		

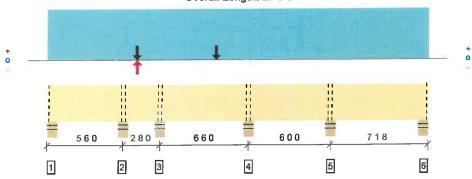
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Forte Software Operator	Job Notes	
Matthew Rimkus Chelmsford Lumber (978) 244-0222 mattrimkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma	

Overall Length: 27 9 8



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

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern) [Group]
Member Reaction (lbs)	9588 @ 8 2 0	12272 (5.50")	Passed (78%)		1.0 D + 1.0 L (Adj Spans) [1]
Shear (lbs)	5086 @ 13 5 6	11845	Passed (43%)	1.00	1.0 D + 1.0 L (Adj Spans) [1]
Moment (Ft-Ibs)	7153 @ 12 3 8	26772	Passed (27%)	1.00	1.0 D + 1.0 L (Alt Spans) [1]
Live Load Defl. (in)	0.033 @ 12 3 8	0.217	Passed (L/999+)		1.0 D + 1.0 L (Alt Spans) [1]
Total Load Defl. (in)	0.045 @ 12 3 8	0.325	Passed (L/999+)		1.0 D + 1.0 L (Alt Spans) [1]

- · Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 27 10 0 o/c unless detailed otherwise.
- · Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 27 10 0 o/c unless detailed otherwise.

		Bearing			Loads to Supports (lbs)			
Supports	Total	Available	Required	Dead	Floor	Total	Accessories	
1 - Stud wall - SPF	5.50"	5.50*	1.50"	519	1722/-116	2241/-116	Blocking	
2 - Stud wall - SPF	5.50"	5.50"	2.93"	1326	5221/- 1125	6547/-1125	Blocking	
3 - Stud wall - SPF	5.50"	5.50"	4.30"	2422	7166/-296	9588/-296	Blocking	
4 - Stud wall - SPF	5.50"	5.50"	4.25"	2385	7094	9479	Blocking	
5 - Stud wall - SPF	5.50"	5.50"	2.84"	1341	4994	6335	Blocking	
6 - Stud wall - SPF	5.50"	5.50"	1.50"	673	2190/-160	2863/-160	Blocking	

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 0 0 to 27 9 8	N/A	18.2		
1 - Uniform (PSF)	0 0 0 to 27 9 8 (Front)	16 0 0	12.0	40.0	Residential - Living Areas
2 - Point (lb)	12 3 8 (Front)	N/A	1536	3488	Linked from: beam betw LR and FR, Support 1
3 - Point (lb)	6 6 0 (Front)	N/A	1289	2320/-103	Linked from: beam over pantry and sta , Support 3

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

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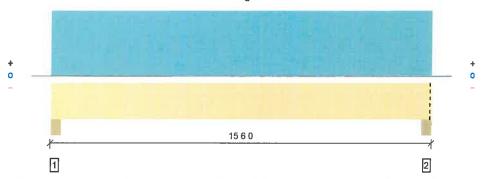
System : Floor Member Type : Drop Beam Building Use : Residential Building Code : IBC 2012 Design Methodology : ASD

Forte Software Operator	Job Notes	
Matthew Rimkus Chelmsford Lumber (978) 244-0222 mattrimkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma	

REPORT 2nd floor beams, beam betw LR and FR

3 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL

Overall Length: 15 6 0



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

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	5023 @ 0 4 0	20934 (5.50")	Passed (24%)		1.0 D + 1.0 L (All Spans)
Shear (lbs)	4085 @ 1 5 6	11845	Passed (34%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	17827 @ 7 9 0	26772	Passed (67%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.357 @ 7 9 0	0.371	Passed (L/498)		1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.515 @ 7 9 0	0.742	Passed (L/346)		1.0 D + 1.0 L (All Spans)
Deflection criteria: LL (L/480) a	and TL (L/240).		(-, -, -, -,	1	(111 - (11

- Top Edge Bracing (Lu): Top compression edge must be braced at 15 6 0 o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 15 6 0 o/c unless detailed otherwise.

		Bearing			s to Suppor		
Supports	Total	Available	Required	Dead	Floor Live	Total	Accessories
1 - Column - SPF	5.50"	5.50"	1.50"	1536	3488	5024	None
2 - Column - SPF	5.50"	5.50"	1.50"	1536	3488	5024	Blocking

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 0 0 to 15 6 0	N/A	18.2		
1 - Uniform (PSF)	0 0 0 to 15 6 0 (Front)	15 0 0	12.0	30.0	Residential - Living Areas

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



System: Floor

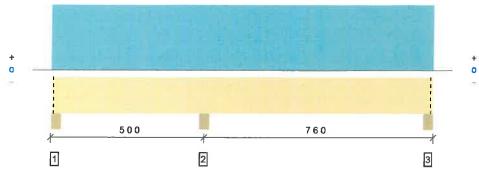
Member Type : Flush Beam Building Use : Residential Building Code : IBC 2012 Design Methodology : ASD

Forte Software Operator	Job Notes	
Matthew Rimkus Chelmsford Lumber (978) 244-0222 mattrimkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma	

MEMBER REPORT 2nd floor beams, beam over pantry and stair

2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL

Overall Length: 12 6 0



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

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	8341 @ 5 0 0	13956 (5.50")	Passed (60%)		1.0 D + 1.0 L (All Spans)
Shear (lbs)	3323 @ 6 2 10	7897	Passed (42%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	-5394 @ 5 0 0	17848	Passed (30%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.039 @ 8 9 13	0.179	Passed (L/999+)		1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.059 @ 8 10 4	0.358	Passed (L/999+)		1.0 D + 1.0 L (Alt Spans)

System: Floor

Member Type : Flush Beam Building Use : Residential Building Code: IBC 2012 Design Methodology: ASD

- . Deflection criteria: LL (L/480) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 12 6 0 o/c unless detailed otherwise.
- . Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 12 6 0 o/c unless detailed otherwise.

		Bearing			is to Suppor		
Supports	Total	Available	Required	Dead	Floor Live	Total	Accessories
1 - Column - SPF	5.50"	5.50"	1.50"	641	1675/-573	2316/-573	Blocking
2 - Column - SPF	5.50*	5.50"	3.29"	3066	5275	8341	None
3 - Column - SPF	5.50"	5.50"	1.50"	1289	2320/-103	3609/-103	Blocking

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 0 0 to 12 6 0	N/A	12.1		
1 - Uniform (PSF)	0 0 0 to 12 6 0 (Front)	13 9 0	12.0	30.0	Residential - Living Areas
2 - Uniform (PLF)	0 0 0 to 12 6 0 (Front)	N/A	85.0	-	
3 - Uniform (PSF)	0 0 0 to 12 6 0 (Front)	13 9 0	10.0	20.0	

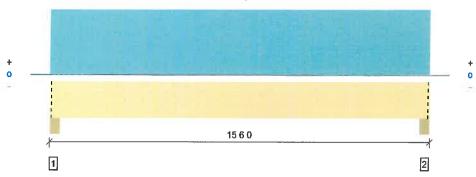
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SUSTAINABLE	FORESTRY	INITIATIVE
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Forte Software Operator	Job Notes	
Matthew Rimkus Chelmsford Lumber (978) 244-0222 mattrimkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma	

Overall Length: 15 6 0



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

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	3566 @ 0 4 0	20934 (5.50")	Passed (17%)		1.0 D + 1.0 L (All Spans)
Shear (lbs)	2900 @ 1 5 6	11845	Passed (24%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	12657 @ 7 9 0	26772	Passed (47%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.270 @ 7 9 0	0.371	Passed (L/659)		1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.365 @ 7 9 0	0.742	Passed (L/487)		1.0 D + 1.0 L (All Spans)

System : Floor

Member Type : Flush Beam Building Use : Residential Building Code : IBC 2012 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 15 6 0 o/c unless detailed otherwise.
- * Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 15 6 0 o/c unless detailed otherwise.

		Bearing			s to Suppor		
Supports	Total	Available	Required	Dead	Floor	Total	Accessories
1 - Column - SPF	5.50"	5.50"	1.50"	931	2635	3566	Blocking
2 - Column - SPF	5.50"	5.50"	1.50"	931	2635	3566	Blocking

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 0 0 to 15 6 0	N/A	18.2		
1 - Uniform (PSF)	0 0 0 to 15 6 0 (Front)	860	12.0	40.0	Residential - Living Areas

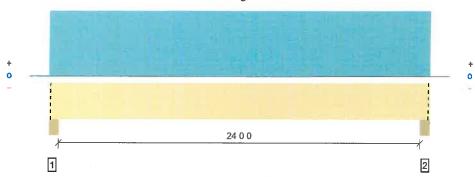
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SUSTAINABLE FORESTRY INITIATIVE

Forte Software Operator	Job Notes	
Matthew Rimkus Chelmsford Lumber (978) 244-0222 mattrimkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma	

Overall Length: 24 11 0



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

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	6737 @ 0 4 0	27913 (5.50")	Passed (24%)		1.0 D + 1.0 L (All Spans)
Shear (lbs)	5678 @ 1 11 8	23940	Passed (24%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	39749 @ 12 5 8	77506	Passed (51%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.436 @ 12 5 8	0.808	Passed (L/668)		1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.655 @ 12 5 8	1.212	Passed (L/444)		1.0 D + 1.0 L (All Spans)

System : Floor

Member Type : Drop Beam Building Use : Residential Building Code : IBC 2012 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 16 3 0 o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 24 11 0 o/c unless detailed otherwise.
- · Member should be side-loaded from both sides of the member to prevent rotation.

		Bearing			s to Suppor			
Supports	Total	Available	Required	Dead	Floor Live	Total	Accessories	
1 - Column - SPF	5.50*	5.50"	1.50"	2252	4485	6737	Blocking	
2 - Column - SPF	5.50"	5.50"	1.50"	2252	4485	6737	Blocking	

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 0 0 to 24 11 0	N/A	36.8		
1 - Uniform (PSF)	0 0 0 to 24 11 0 (Front)	12 0 0	12.0	30.0	Residential - Living Areas

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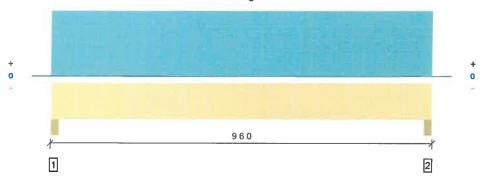


Forte Software Operator	Job Notes	
Matthew Rimkus Chelmsford Lumber (978) 244-0222 mattrimkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma	

2nd floor beams, garage header

2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL

Overall Length: 9 6 0



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

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	3511 @ 0 3 0	11419 (4.50")	Passed (31%)		1.0 D + 1.0 S (All Spans)
Shear (lbs)	2502 @ 1 4 6	9081	Passed (28%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	7484 @ 4 9 0	20525	Passed (36%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.093 @ 4 9 0	0.300	Passed (L/999+)		1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.132 @ 4 9 0	0.450	Passed (L/815)		1.0 D + 1.0 S (All Spans)

System: Wall
Member Type: Header
Building Use: Residential
Building Code: IBC 2012
Design Methodology: ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 9 6 0 o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 9 6 0 o/c unless detailed otherwise.

		Bearing			Loads to S				
Supports	Total	Available	Required	Dead	Floor Live	Snow	Total	Accessories	
1 - Trimmer - SPF	4.50*	4.50"	1.50"	1041	713	2470	4224	None	
2 - Trimmer - SPF	4.50"	4.50"	1.50"	1041	713	2470	4224	None	

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 0 0 to 9 6 0	N/A	12.1			
1 - Uniform (PSF)	0 0 0 to 9 6 0	13 0 0	15.0	-	40.0	Residential - Living Areas
2 - Uniform (PSF)	0 0 0 to 9 6 0	100	12.0	30.0	-	
3 - Uniform (PSF)	0 0 0 to 9 6 0	12 0 0	-	10.0		ceiling

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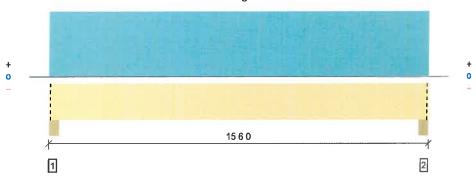
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Forte Software Operator	Job Notes	
Matthew Rimkus Chelmsford Lumber (978) 244-0222 mattrimkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma	

Overall Length: 15 6 0



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

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	7056 @ 0 4 0	27913 (5.50")	Passed (25%)		1.0 D + 1.0 S (All Spans)
Shear (lbs)	5738 @ 1 5 6	18163	Passed (32%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	25042 @ 7 9 0	41051	Passed (61%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.351 @ 7 9 0	0.371	Passed (L/506)		1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.542 @ 7 9 0	0.742	Passed (L/328)		1.0 D + 1.0 S (All Spans)

System : Floor

Member Type : Flush Beam Building Use : Residential Building Code : IBC 2012 Design Methodology : ASD

- . Deflection criteria: LL (L/480) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 15 6 0 o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 15 6 0 o/c unless detailed otherwise.
- · Member should be side-loaded from both sides of the member to prevent rotation.

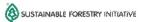
		Bearing			Loads to S				
Supports	Total	Available	Required	Dead	Floor Live	Snow	Total	Accessories	
1 - Column - SPF	5.50"	5.50"	1.50"	2484	1163	4573	8220	Blocking	
2 - Column - SPF	5.50"	5.50"	1.50"	2484	1163	4573	8220	Blocking	

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 0 0 to 15 6 0	N/A	24.2			
1 - Uniform (PSF)	0 0 0 to 15 6 0 (Front)	760	10.0	20.0	-	Residential - Living Areas
2 - Uniform (PSF)	0 0 0 to 15 6 0 (Top)	14 9 0	15.0	-	40.0	

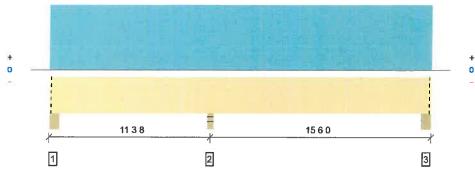
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Forte Software Operator	Job Notes
Matthew Rimkus Chelmsford Lumber (978) 244-0222 mattrimkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma

Overall Length: 26 9 8



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

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	7807 @ 11 3 8	7809 (3.50")	Passed (100%)		1.0 D + 1.0 L (All Spans)
Shear (lbs)	3728 @ 12 5 2	11845	Passed (31%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	-10763 @ 11 3 8	26772	Passed (40%)	1.00	1.0 D + 1.0 L (Ali Spans)
Live Load Defl. (in)	0.176 @ 19 4 8	0.379	Passed (L/999+)		1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.257 @ 19 5 12	0.758	Passed (L/709)		1.0 D + 1.0 L (Alt Spans)

System: Floor

Member Type : Flush Beam Building Use : Residential Building Code : IBC 2012 Design Methodology: ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 26 10 0 o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 26 10 0 o/c unless detailed otherwise.

		Bearing			is to Suppor		
Supports	Total	Available	Required	Dead	Floor Live	Total	Accessories
1 - Column - SPF	5.50"	5.50"	1.50"	625	1571/-457	2196/-457	Blocking
2 - Stud wall - SPF	3.50"	3.50"	3.50*	2805	5003	7808	None
3 - Cotumn - SPF	5.50"	5.50"	1.50"	1077	2045/-125	3122/-125	Blocking

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 0 0 to 26 9 8	N/A	18.2		
1 - Uniform (PSF)	0 0 0 to 26 9 8 (Front)	15 0 0	10.0	20.0	ceiling

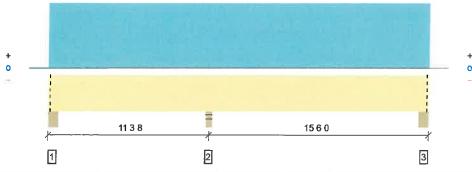
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Overall Length: 26 9 8



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Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	7807 @ 11 3 8	7809 (3.50")	Passed (100%)		1.0 D + 1.0 L (All Spans)
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Live Load Defl. (in)	0.176 @ 19 4 8	0.379	Passed (L/999+)		1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.257 @ 19 5 12	0.758	Passed (L/709)		1.0 D + 1.0 L (Alt Spans)

- System: Floor
- Member Type: Flush Beam Building Use: Residential Building Code: IBC 2012 Design Methodology: ASD

- . Deflection criteria: LL (L/480) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 26 10 0 o/c unless detailed otherwise.
- · Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 26 10 0 o/c unless detailed otherwise.

		Bearing			ls to Suppor		
Supports	Total	Available	Required	Dead	Floor Live	Total	Accessories
1 - Column - SPF	5.50"	5.50"	1.50"	625	1571/-457	2196/-457	Blocking
2 - Stud wall - SPF	3.50"	3.50"	3.50"	2805	5003	7808	None
3 - Column - SPF	5.50"	5.50"	1.50"	1077	2045/-125	3122/-125	Blocking

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 0 0 to 26 9 8	N/A	18.2		
1 - Uniform (PSF)	0 0 0 to 26 9 8 (Front)	15 0 0	10.0	20.0	ceiling

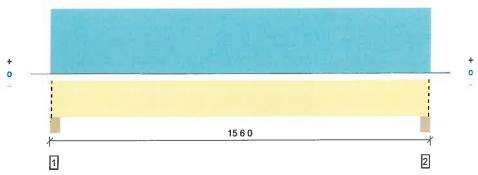
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Overall Length: 15 6 0



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Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	7056 @ 0 4 0	27913 (5.50")	Passed (25%)		1.0 D + 1.0 S (All Spans)
Shear (lbs)	5738 @ 1 5 6	18163	Passed (32%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	25042 @ 7 9 0	41051	Passed (61%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.351 @ 7 9 0	0.371	Passed (L/506)		1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.542 @ 7 9 0	0.742	Passed (L/328)		1.0 D + 1.0 S (All Spans)

System : Floor

Member Type : Flush Beam Building Use : Residential Building Code : IBC 2012 Design Methodology : ASD

- . Deflection criteria: LL (L/480) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 15 6 0 o/c unless detailed otherwise.
- \bullet Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 15 6 0 o/c unless detailed otherwise.
- · Member should be side-loaded from both sides of the member to prevent rotation.

		Bearing			Loads to S			
Supports	Total	Available	Required	Dead	Floor Live	Snow	Total	Accessories
1 - Column - SPF	5.50"	5.50"	1.50"	2484	1163	4573	8220	Blocking
2 - Column - SPF	5.50"	5.50"	1.50"	2484	1163	4573	8220	Blocking

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

Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 0 0 to 15 6 0	N/A	24.2			
1 - Uniform (PSF)	0 0 0 to 15 6 0 (Frant)	760	10.0	20.0	-	Residential - Living Areas
2 - Uniform (PSF)	0 0 0 to 15 6 0 (Top)	14 9 0	15.0		40.0	

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Matthew Rimkus Chelmsford Lumber (978) 244-0222 matt/imkus@chelmsfordlumbercorp.com	25 Grey Birch Belmont Ma	

basement beam 25 Grey Birch Belmont Ma 4-10-19 1:37pm 1 of 3

Member Data

Description:

CS Beam 4.12.3.5 kmBeamEngine 4.12.5.1 Materials Database 1518

Member Type: Beam

Top Lateral Bracing: Continuous Bottom Lateral Bracing: Continuous

Moisture Condition: Dry

Deflection Criteria: L/360 live, L/240 total

Deck Connection: Nailed Filename: Beam3

Application: Floor

Building Code: IBC/IRC

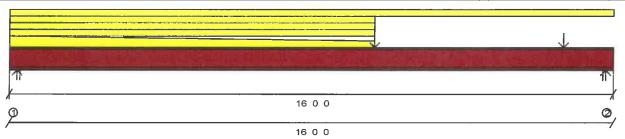
Member Weight: 30.0 PLF

Other Loads

Standard Load: Live Load: 40 PLF

Dead Load: 10 PLF

Other Loads									
Туре				Trib.	Other		Dead		
(Description)	Side	Begin	End	Width	Start	End	Start	End	Category
Replacement Uniform (PSF)	Тор	0' 0.00"	16' 0.00"	16' 0.00"	40		10		Live
Replacement Uniform (PSF)	Top	0' 0.00"	9' 8.00"	13' 9.00"	30		12		Live
Replacement Uniform (PSF)	Тор	0' 0.00"	9' 8.00"	13' 9.00"	20		10		Live
Additional Uniform (PLF)	Top	0' 0.00"	9' 8.00"		0		95		Live
Replacement Tapered (PLF)	Top	0' 0.00"	9' 8.00"		0	0	85	0	Live
Point (LBS)	Top	9' 8.00"			1300		640		Live
Point (LBS)	Top	14' 8.00"			5275		3066		Live



Product Data Fy''' Fy' D Wweb Sx Fу Ix Lc Lu psi ft ft in3 psi psi in4 ft ft 32.40 36000 10.50 0.300 54200 170.00 13.1 6.1 Compact Section d/Af EI K Live Total

1/in LBS.in2 3.530 4930.0x10^6 0.000 L/360 L/240

Load Pattern: Total Load D

0.00 - 15.56 0.00 0.66Fy

Fb =0.66psi * Fy Ma = -1384'# Va = -20176# Factored Loads Applied: Distributed Loads: 0.0000' - 0.7479' 0.7479' - 1.7146' 1.7146' - 2.6813' 672.50 plf 659.75 plf 651.25 plf 2.6813' - 3.6479' 642.75 plf 3.6479' -4.6146' 634.25 plf 4.6146' - 5.5813 625.75 plf 617.25 plf 5.5813' - 6.5479 6.5479' -7.5146 608.75 plf 7.5146' - 8.4813' 600.25 plf 8.4813' - 9.4479' 587.50 plf 9.4479' - 14.4479' 190.00 plf 14.4479' - 15.5625' 190.00 plf Point Loads: 640.00 # 14.4479 3066.00 # Point Loads Over Bearings: Reactions: 0.0000 4879.73 # 15.5625 5930.93 # Segment(ft) l(ft) Fb(psi) Ma('#)'

All product names are trademarks of their respective owners

-1384

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**Passing is defined as when the member, floor joist, beam or girder, shown on this drawing meets applicable design orderia for Loads, Loading Conditions, and Spans listed on this sheet. The design must be reviewed by a qualified designer or design professional as required for approval. This design assumes product installation according to the manufacturer's

CS Beam 4.12.3.5 kmBeamEngine 4.12.5.1 Materials Database 1518

```
Load Pattern: Total Load D+L
                                                   Defl: L / 240
                        Ma = -1384'# Va = -20176#
Fb =0.66psi * Fv
 For total load deflection
 Factored Loads Applied:
    Distributed Loads:
         0.0000' - 0.7479'
0.7479' - 1.7146'
                                  2000.00 plf
                                  1987.25 plf
         1.7146' - 2.6813'
                                  1978.75 plf
         2.6813' - 3.6479'
                                  1970.25 plf
         3.6479' - 4.6146'
                                  1961.75 plf
         4.6146' - 5.5813'
5.5813' - 6.5479'
                                  1953.25 plf
                                  1944.75 plf
         6.5479' - 7.5146'
7.5146' - 8.4813'
8.4813' - 9.4479'
                                  1936.25 plf
                                  1927.75 plf
                                  1915.00 plf
         9.4479' - 14.4479'
                                   830.00 plf
        14.4479' - 15.5625'
                                   830.00 plf
    Point Loads:
        9.4479' 1940.00 #
14.4479' 8341.00 #
                     1940.00 #
    Point Loads Over Bearings:
 Reactions:
        0.0000' 15272.07 #
15.5625' 18569.04 #
        15.5625'
   Segment(ft)
                  1(ft) Fb(psi) Ma('#)'
l(ft) Fbn(psi) Man('#)' l(ft) Fbb(kN/m2) Mab('#)'
   Segment(ft)
15.56 - 15.57 0.00 0.66Fy -1384 **** ****Fy
Load Pattern: Total Load L
                                                  Defl: L / 360
Fb =0.66psi * Fy
                       Ma = -1384'# Va = -20176#
For live load deflection
Factored Loads Applied:
    Distributed Loads:
        0.0000' - 0.7479'
0.7479' - 1.7146'
1.7146' - 2.6813'
2.6813' - 3.6479'
3.6479' - 4.6146'
                                 1327.50 plf
                                 1327.50 plf
                                 1327.50 plf
                                 1327.50 plf
1327.50 plf
        4.6146' - 5.5813'
5.5813' - 6.5479'
6.5479' - 7.5146'
                                 1327.50 plf
                                 1327.50 plf
                                 1327.50 plf
        7.5146' - 8.4813'
                                 1327.50 plf
       8.4813' - 9.4479'
9.4479' - 14.4479'
14.4479' - 15.5625'
                                1327.50 plf
                                  640.00 plf
```

Input

Miles

Gravity

Gravity

Bearings	and	Reactions
----------	-----	-----------

Deflection @ 7.7812': 0.3587"

1300.00 #

5275.00 #

Point Loads:

9.4479' 14.4479'

	Location	Type	Material	Length	Required	Reaction	Uplift
1	0' 0.000"	Wall	Steel	3.500"	N/A	15272#	
2	16' 0.000"	Wall	Steel	3.500"	N/A	18569#	

Maximum Load Case Reactions

Used for applying point loads (or line loads) to carrying members Live Dead 10392# 4880# 12638# 5931#

Design spans 15' 6.750"

All product names are trademarks of their respective owners

640.00 plf

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**Passing is defined as when the member, floor joist, beam or girder, shown on this drawing meets applicable design criteria for Loads, Loading Conditions, and Spans listed on this sheet. The design must be reviewed by a qualified designer or design professional as required for approval. This design assumes product installation according to the manufacturer's predictions.



CS Beam 4.12.3.5 kmBeamEngine 4.12.5.1 Materials Database 1518

Product: W 10 x 30 (36ksi)

PASSES DESIGN CHECKS

Design assumes continuous lateral bracing along the top chord. Design assumes continuous lateral bracing along the bottom chord.

N/A

Allowable Stress Design	n				
_	Actual	Allowable	Capacity	Location	Loading
Positive Moment	59.01'k#	64.15'k#	91%	8'	Total Load D+L
Shear	18.57k#	45.36k#	40%	16'	Total Load D+L
LL Deflection	0.3587"	0.5188"	L/520	8'	Total Load L
TL Deflection	0.5206"	0.7781"	L/358	8'	Total Load D+L
LL Defl., Lt.	N/A				
TL Defl., Lt.	N/A				
LL Defl., Rt.	N/A				

Control: Positive Moment

TL Defl., Rt.

All product names are trademarks of their respective owners

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**Passing is defined as when the member, floor joist, beam or girder, shown on this drawing meets applicable design criteria for Loads, Loading Conditions, and Spans listed on this sheet. The design must be reviewed by a qualified designer or design professional as required for approval. This design assumes product installation according to the manufacturer's

Load Short Form 1ST FLOOR SG TORRICE

Job:

Date: Apr 09, 2019

By:

80 INDUSTRIAL WAY, WILMINGTON, MA 01887 Phone: 978-657-7779

Project Information

For:

25 GREYBIRCH CIRCLE, SENECA

BELMONT, MA

Design Information						
	Htg	Clg		Infiltration		
Outside db (°F)	3	88	Method		Simplified	
Inside db (°F)	72	70	Construction quality		Semi-tight	
Design TD (°F)	70	18	Fireplaces		1 (Semi-tight	
Daily range		М			r (Ocimi-tigrit	
Inside humidity (%)	30	50				
Moisture difference (gr/lb)	30	40				

HEATING EQUIPMENT

COOLING EQUIPMENT

Make Trade Model AHRI ref		Make Trade Cond Coil AHRI ref	
Efficiency Heating input Heating output Temperature rise Actual air flow Air flow factor Static pressure Space thermostat	80 AFUE 0 Btuh 0 Btuh 0 °F 1113 cfm 0.037 cfm/Btuh 0 in H2O	Efficiency Sensible cooling Latent cooling Total cooling Actual air flow Air flow factor Static pressure Load sensible heat ratio	0 SEER 0 Btuh 0 Btuh 1113 cfm 0.063 cfm/Btuh 0 in H2O 0.81

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
MUD RM	126	2598	572	96	36
DINING RM	202	2868	1882	105	119
FOYER/ST	163	1632	409	60	26
FAM RM	240	4087	4068	150	258
LIVING RM	225	4225	3316	155	210
KITCHEN	520	6801	5303	250	336
BATH	28	0	0	0	000
PANTRY	35	0	ő	ő	0
FINISHED BASEMENT	1539	8043	2020	296	128



1ŠT FLOOR d Other equip loads Equip. @ 0.93 RSM Latent cooling	3077	30254 0	17571 0 16358 4081	1113	1113
TOTALS	3077	30254	20439	1113	1113



Load Short Form 2ND FLOOR SG TORRICE

Job:

Date: Apr 09, 2019

By:

80 INDUSTRIAL WAY, WILMINGTON, MA 01887 Phone: 978-657-7779

Project Information

For:

25 GREYBIRCH CIRCLE, SENECA

BELMONT, MA

Design Information						
	Htg	Clg		Infiltration		
Outside db (°F)	3	88	Method		Simplified	
Inside db (°F)	72	70	Construction quality		Semi-tight	
Design TD (°F)	70	18	Fireplaces		1 (Semi-tight)	
Daily range	-	M	i ii opiacoo		r (Seitii-tigrit)	
Inside humidity (%)	30	50				
Moisture difference (gr/lb)	30	40				

HEATING EQUIPMENT

COOLING EQUIPMENT

Make Trade Model AHRI ref		Make Trade Cond Coil AHRI ref	
Efficiency Heating input Heating output Temperature rise Actual air flow Air flow factor Static pressure Space thermostat	0 AFUE 0 Btuh 0 Btuh 0 °F 1135 cfm 0.033 cfm/Btuh 0 in H2O	Efficiency Sensible cooling Latent cooling Total cooling Actual air flow Air flow factor Static pressure Load sensible heat ratio	0 SEER

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
BR 5	203	2980	1737	98	103
BR 4	203	3166	2102	105	125
BR 4 & 5 BATH	60	572	172	19	10
HALL/ST	205	1716	1826	57	108
2 BATH	76	1120	771	37	46
BR 3	194	1880	1517	62	90
BR 2	194	2738	2010	90	119
2 HALL	94	195	135	6	8
M WIC	108	1698	1089	56	65
W/D	72	150	626	5	37
M BATH	191	2331	1142	77	68
M BR	698	15798	6023	522	357



2ND FLOOR d Other equip loads Equip. @ 0.93 RSM Latent cooling	2297	34346 0	19151 0 17830 2060	1135	1135
TOTALS	2297	34346	19890	1135	1135

Component Constructions 2ND FLOOR SG TORRICE

Job:

Date: Apr 09, 2019

By:

80 INDUSTRIAL WAY, WILMINGTON, MA 01887 Phone: 978-657-7779

Project Information

For:

25 GREYBIRCH CIRCLE, SENECA

BELMONT, MA

Design Conditions					
Location: Laurence G Hanscom, M Elevation: 135 ft Latitude: 42°N Outdoor: Dry bulb (°F) Dailyrange (°F) Wet bulb (°F) Wind speed (mph)	Heating 3 - - 15.0	Cooling 88 20 (M) 72 7.5	Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb) Infiltration: Method Construction quality Fireplaces	Heating 72 70 30 30.1 Simplified Semi-tight 1 (Semi-tight)	70 18 50 40.3

					His .			
Construction descriptions	Or	Area	U-value Btuh/ft²-°F	Insul R	Htg HTM		Clg HTM	Gain
Walls		11.	Dull/IC- F	π*- * F/Btun	Btuh/ft²	Btuh	Btuh/ft²	Btuh
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum	n	320	0.065	21.0	4.52	1443	1.19	381
board int fnsh, 2"x6" wood frm, 16" o.c. stud	е	576	0.065	21.0	4.52	2602	1.19	687
	s	374	0.065	21.0	4.52	1687	1.19	445
	W	563	0.065	21.0	4.52	2541	1.19	671
	all	1832	0.065	21.0	4.52	8274	1.19	2185
Partitions (none)								
Windows								
3 glazing, clr low-e outr, 1/4" gap, insulated vinyl frm mat, clr mid, air	n	54	0.300	0	20.9	1126	11.2	602
gas, 1/8" thk, clr low-e innr: 3 glazing, clr low-e outr, 1/4" gap, insulated	е	108	0.300	0	20.9	2252	33.6	3626
vinyl frm mat, clr mid, air gas, 1/8" thk, clr low-e innr; 6.67 ft head ht	W	122	0.300	0	20.9	2533	33.6	4079
	all	284	0.300	0	20.9	5911	29.3	8307
Doors (none)								
Ceilings 16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		2297	0.026	38.0	1.81	4150	1.38	3168
F loors 19A-0bswp: Part floor, hrd wd flr fnsh, frm flr, 6" thkns, 1/2" gypsum poard int fnsh		758	0.295	0	7.70	5838	2.01	1520

Component Constructions 1ST FLOOR **SG TORRICE**

Job:

Date: Apr 09, 2019

80 INDUSTRIAL WAY, WILMINGTON, MA 01887 Phone: 978-657-7779

Project Information

For:

25 GREYBIRCH CIRCLE, SENECA

BELMONT, MA

Design Conditions					
Location: Laurence G Hanscom, M Elevation: 135 ft Latitude: 42°N Outdoor:	1A, US Heating	Cooling	Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 72 70 30 30,1	Cooling 70 18 50 40.3
Drybulb (°F) Dailyrange (°F) Wetbulb (°F) Wind speed (mph)	3 - - 15.0	88 20 (M) 72 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Semi-tight 1 (Semi-tight)	

Construction descriptions	Or	Area ft²	U-value Btuh/ft²-°F	Insul R	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain
Walls		ı	Blann - 1	IC- P/Blui	DIUI1/IC	DWI	Blunnt	Btuh
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum	n	63	0.065	21.0	4.52	285	1.19	75
board int fnsh, 2"x6" wood frm, 16" o.c. stud	е	372	0.065	21.0	4.52	1681	1.19	444
	s	257	0.065	21.0	4.52	1159	1.19	306
	w	372	0.065	21.0	4.52	1681	1.19	444
	all	1064	0.065	21.0	4.52	4804	1.19	1268
15A21-0ocw-8: Bg wall, light dry soil, empty core, 2"x6" wood int frm,	n	311	0.039	0	2.93	911	0.10	32
concrete block wall, r-21 cav ins, 10" thk, 1/2" gypsum board int fnsh	е	468	0.039	0	2.93	1373	0.10	48
	S	311	0.039	0	2.93	911	0.10	32
	W	468	0.039	0	2.93	1373	0.10	48
	all	1557	0.039	0	2.93	4569	0.10	161
Partitions								
12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		227	0.091	13.0	6.32	1432	1.33	302
Windows								
3 glazing, clr low-e outr, 1/4" gap, insulated vinyl frm mat, clr mid, air	е	54	0.300	0	20.9	1126	33.6	1813
gas, 1/8" thk, clr low-e innr: 3 glazing, clr low-e outr, 1/4" gap, insulated	е	42	0.300	Ö	20.9	876	33.6	1410
vinyl frm mat, clr mid, air gas, 1/8" thk, clr low-e innr; 6.67 ft head ht	s	54	0.300	Ö	20.9	1126	18.6	1003
y y y y y y y y y y y y y y y y y y y	W	54	0.300	0	20.9	1126	33.6	1813
	all	204	0.300	Ö	20.9	4253	29.6	6039
Doors								
11D0: Door, wd sc type	w	42	0.390	0	27.1	1138	11.5	484
	n	21	0.390	0	27.1	569	11.5	242
	all	63	0.390	0	27.1	1708	11.5	726
Ceilings								
none)								
Floors								
11A-32c: Bg floor, light dry soil, 8' depth, carpet flr fnsh		1539	0.020	0	1.39	2139	0	0

Project Summary SG TORRICE

Job:

Date: Apr 09, 2019

80 INDUSTRIAL WAY, WILMINGTON, MA 01887 Phone: 978-657-7779

Project Information

For:

25 GREYBIRCH CIRCLE, SENECA BELMONT, MA

Notes:

Distributor is not responsible for the accuracy of the load calculation if inaccurate/incomplete construction information is provided by the dealer. It is the sole responsibility of the dealer to ensure that the duct system is adequately sized for the airflow capacity of the specified equipment

Design Information

Weather: Laurence G Hanscom, MA, US

Winter Design Conditions

Summer	Design	Conditions
--------	--------	------------

Outside db 3 °F Inside db 72 °F Design TD 70 °F	Outside db Inside db Design TD Daily range Relative humidity Moisture difference	88 °F 70 °F 18 °F M 50 % 40 gr/lb
---	---	--

Heating Summary

Structure	22892	Btuh
Ducts	7361	Btuh
Central vent (0 cfm)	0	Btuh
(none)		
Humidification	0	Btuh
Piping	Ó	Btuh
Equipment load	30254	

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	1 (Semi-tight)

	Heating	Cooling
Area (ft²)	3077	3077
Volume (ft³)	15385	15385
Air changes/hour	0.20	0.10
Equiv. AVF (cfm)	52	25

Heating	Equipment	Summary
---------	-----------	---------

AHRI ref	
Efficiency Heating input Heating output Temperature rise Actual air flow Air flow factor Static pressure Space thermostat	80 AFUE 0 Btuh 0 Btuh 0 °F 1113 cfm 0.037 cfm/Btuh 0 in H2O

Sensible Cooling Equipment Load Sizing

	-	-	-		
Structure Ducts Central vent (0 cfm) (none)				14727 2844 0	
Blower				0	Btuh
I loo manufactured alata					

Use manulaciulei s dala	n
Rate/swing multiplier	0.93
Equipment sensible load	16358 Btuh

Latent Cooling Equipment Load Sizing

Structure Ducts Central vent (0 cfm) (none)	2276 1805 0	
Equipment latent load	4081	Btuh

20439 Btuh Equipment Total Load (Sen+Lat) Req. total capacity at 0.70 SHR 1.9 ton

Cooling Equipment Summary

Make Trade	
Cond	
Coil	
AHRI ref	
Efficiency	0 SEER
Sensible cooling	0 Btuh
Latent cooling	0 Btuh
Total cooling	0 Btuh
Actual air flow	1113 cfm
Air flow factor	0.063 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0.81

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Make Trade Model

Right-Suite® Universal 2019 19.0.04 RSU20134

Project Summary 2ND FLOOR **SG TORRICE**

Job:

Date: Apr 09, 2019

By:

80 INDUSTRIAL WAY, WILMINGTON, MA 01887 Phone: 978-657-7779

Project Information

For:

25 GREYBIRCH CIRCLE, SENECA

BELMONT, MA

Notes:

Distributor is not responsible for the accuracy of the load calculation if inaccurate/incomplete construction information is provided by the dealer. It is the sole responsibility of the dealer to ensure that the duct system is adequately sized for the airflow capacity of the specified equipment

Design Information

Weather:	Laurence G Hanscom, MA, L	15
Woding.	Ladience O Hanscom, MA. C	

Winter Design	Conditions
---------------	-------------------

Summer Design Conditions

Outside db Inside db Design TD	3 °F 72 °F 70 °F	Inside db	88 °I 70 °I 18 °I M 50 %	F F 6
		ivioisture difference	40 a	ır/ib

Heating Summary

Sensible Cooling Equipment Load Sizing

Structure Ducts Central vent (0 cfm) (none)		Btuh Btuh Btuh	Structure Ducts Central vent (0 cfm) (none)		Btuh Btuh Btuh
Humidification Piping		Btuh Btuh	Blower	0	Btuh
Piping Equipment load	34346		Use manufacturer's data	n	
Infilt	ration		Rate/swing multiplier Equipment sensible load	0.93 17830	Btuh

Simplified

Semi-tight

1 (Semi-tiğht)

Infiltration

alpinoni sonsible load	17000 Dian
Latent Cooling	Equipment Load Sizing

	Heating	Cooling
Area (ft²)	2297	2297
Volume (ft³)	20669	20669
Air changes/hour	0.22	0.10
Equiv. AVF (cfm)	75	35

Structure Ducts Central vent (0 cfm)	1096	Btuh Btuh Btuh
(none) Equipment latent load	2060	Btuh
Equipment Total Load (Sen+Lat)	19890	Btuh

Req. total capacity at 0.70 SHR

Equiv. AVF (cfm) 75 **Heating Equipment Summary**

Cooling Equipment Summary

2.1 ton

Make Trade Model AHRI ref		Make Trade Cond Coil AHRI ref	
Efficiency Heating input Heating output Temperature rise Actual air flow Air flow factor Static pressure Space thermostat	0 AFUE 0 Btuh 0 Btuh 0 °F 1135 cfm 0.033 cfm/Btuh 0 in H2O	Efficiency Sensible cooling Latent cooling Total cooling Actual air flow Air flow factor Static pressure Load sensible heat ratio	0 SEER 0 Btuh 0 Btuh 1135 cfm 0.059 cfm/Btuh 0 in H2O 0.90

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

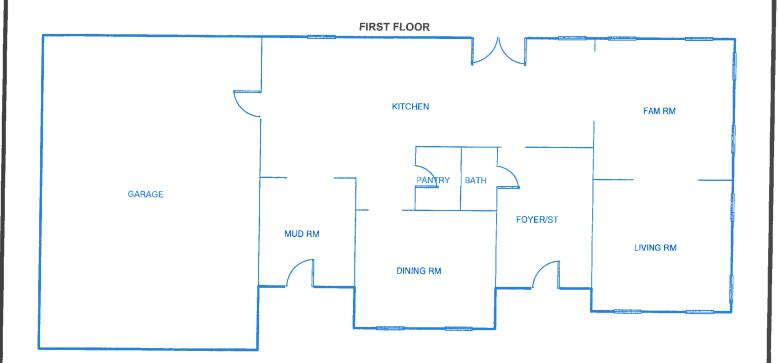


Method

Fireplaces

Construction quality





Job #: Performed for: 25 GREYBIRCH CIRCLE

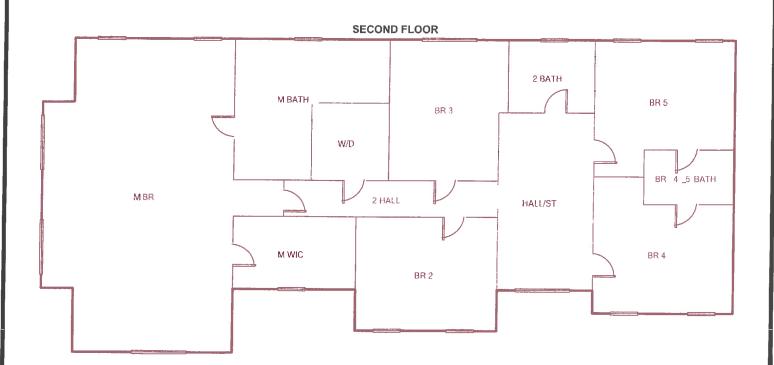
BELMONT, MA

SG TORRICE

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Job #: Performed for: 25 GREYBIRCH CIRCLE

BELMONT, MA

SG TORRICE

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FINISHED BASEMENT

Job #: Performed for: 25 GREYBIRCH CIRCLE

BELMONT, MA

SG TORRICE

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