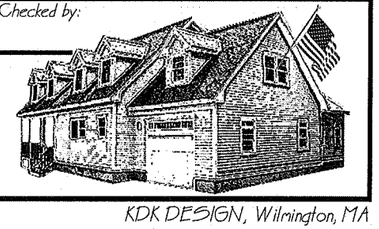
KDK DESIGN

Front Elevation
Scale: 1/8" = 1'0"

NOTE: These plans are intended for the use of a licensed contractor. It is the responsibility of the contractor to verify compliance with all local building codes. Homeowner/contractor to verify dimensions, proposed layout and building materials to be used prior to proceeding with construction.

SHT#: 1 of 14	Date: 07/27/2016	REV
Total Living Area Sq. Ft.:	Drawn by: DB	
Desc: New Colonial Style Home	Checked by:	
Project: Logsdon Residence 13 Whitehall Circle Beverly, MA 01915		

KDK DESIGN

Rear Elevation
Scale: 1/8" = 1'0"

GENERAL NOTES:

1. ALL DIMENSIONS AND MATERIALS SPECIFIED ARE TO BE VERIFIED BY THE CONTRACTOR AND ANY ADJUSTMENTS MADE ACCORDINGLY.
2. ALL WORK SHALL BE COMPLETED IN COMPLIANCE WITH ALL APPLICABLE BUILDING, PLUMBLING & ELECTRICAL CODES. ANY OTHER LOCAL, STATE AND / OR FEDERAL CODES THAT MAY APPLY TO THIS PROJECT SHALL BE CONSIDERED AS PART OF THE CONSTRUCTION DOCUMENTS.
3. ALL WASTE MATERIALS AND DEBRIS SHALL BE REMOVED AND DISPOSED OF PROPERLY.
4. ALL STRUCTURAL MATERIALS SHALL BE VOID OF ANY DEFECTS THAT DIMINISH THEIR CAPACITY TO FUNCTION IN AN ADEQUATE MANNER. STRUCTURAL ENGINEERING OR ANY OTHER PROFESSIONAL SERVICES THAT MAY BE REQUIRED SHALL BE PROVIDED BY OTHERS UNDER SEPERATE CONTRACT AND TERMS.
5. FRAMING LUMBER SHALL BE NO. 2 GRADE SPRUCE–PINE–FIR OR BETTER.
6. ALL PENETRATIONS (PLUMBING, ELECTRICAL, HEATING, ETC.) THRU FLOORS SHALL BE COMPLETELY FIRE CAULKED.
7. ALL POST SHALL BE CONTINUOUS TO FOUNDATION.
8. REFER TO BOISE SPECIFICATIONS AND CALCULATIONS FOR VERSA–LAM INSTALLATION.

KDK DESIGN

Left Elevation
Scale: 1/8" = 1'0"

Right Elevation
Scale: 1/8" = 1'0"

KDK DESIGN

72'

25'-8"

46'-4"

35'-10"

10'-6"

Drop Per Grade, Typ.

10 Thk. Foundation
(2) #5 Rebar At Top

20"w X 10" dp. Ftg
(2) #5 Rebar At Bottom

Basement Windows
Size And Location
TBD By Contractor

FWH6068

5'-6"

2'-4"

5'

16'

5'-6"

30'

15'-8 1/4"

19'-7 1/2"

26'

Stairway-Cutout

30"w X 15" Dp. Ftg
3-1/2" Steel Lally's

Basement

Garage

3'-6"

6'-1 1/4"

7'

2'-11"

5'

7'

7'-3 3/4"

7'

4'-3"

Beam Pocket
Typ.

4'

3'-4 1/2"

25°

Simpson STHD14 Strap Tie
14" Min. Embed. In Concrete, Typ.

10'-7 3/4"

4'-3"

30"w X 30" Dp. Ftg
3-1/2" Steel Lally

14'-3 3/4"

14'

3'

10'w X 7'h Gar. Door

10'w X 7'h Gar. Door

UP

Ⓢ Ⓒ

10'-6"

10'-6"

1'-4"

1'-2"

1'-4"

4'

2'-10"

2'

5'

3'

24'-10"

3'-2"

14'

12'

14'

28'

40'

68'

Foundation Plan 4

Scale: 3/16" = 1'0"

KDK DESIGN

12'x14' Deck

72'

24'-10" | 47'-2"

7'-1 1/4" | 16'-0 3/4" | 8'-6" | 15'-6"

4'-6" | 14'-7" | 5'-9" | 3'-11 1/2" | 3'-1 3/4" | 5'-10" | 10'-2 3/4" | 5' | 10'-6"

CTR6010
CN335

2846 | 1846 | 1846 | 2' | FWH6068

2846 | 2846 | 2832

5' | 2846 | 6'-8 1/4"

Bath | Kitchen | Eating

2'-4" | Mud | CL. | 16" | 2'-11" | Seat

15'-8 1/4" | Family

2'-7" | 2846 | 10'-10" | 16'

4'-11 1/2"

26' | 16'-4" | Garage

4'-0 1/2" | 2'8" | S C | 7'-7 1/2"

2'6" | 2'4" | Arched | 3'-10 1/2" | 2'8" | DN

5'-10 1/2" | Laundry | Pantry | Arched | 10'-7 1/2"

2'6" | 2'6" | 4' | 2846 | 2'-7" | 30'

7' | 14'

2'8" | 4'-8" | 14'-3 3/4" | Living | 2846

10'w X 7'h Gar. Door | 10'w X 7'h Gar. Door | 2846 | 7'

7'-1 1/4" | 4'-6 3/4" | UP | S C

Dining | TWT1810 1842 | TWT31010 DHP31042 | TWT1810 1842

4' | 13'-5 1/4" | FB05

3-1/2"x5-1/4" PSL Post

5' | TWT1810 1842 | TWT31010 DHP31042 | TWT1810 1842 | 5'0" | Covered Entry

2'

8' | 6' | 5'-8 1/2" | 6'-3 1/2" | 7' | 7'

24'-10" | 3'-2" | 14' | 12' | 14'

68'

1st Floor Layout (5)

Scale: 3/16" = 1'0"

KDK DESIGN

68'

22'-9" | 6'-11 1/4" | 14'-2 1/4" | 9'-9 3/4" | 14'-3 3/4"

4'-6" | 14'-7" | 3'-8" | 4'-0 3/4" | 10'-1 1/2" | 4'-4" | 5'-5 3/4" | 2'-9 3/4" | 11'-6" | 4'

2-2832

2842 | 2842 | 2832 | 2842

5' | 2842 | ±18'-6" | 26' | 13'-6"

11'-9 3/4"

Master #1

WI/CL.

M.Bath

Bath

LN.

1'6"

2'6"

2x6

9'-5 3/4"

Bed #4

2-2842

16'

1'10"

CL.

LN.

2'0"

FB02

CL. 2'-6"

CL.

30'

4'

CL. 5'-7 1/2"

3'-10 1/2"

DN

Open

6'-6"

3-2842

11'-6"

CL.

14'-3 3/4"

Bed #3

Bed #2

UP

15'-8 1/4"

FB01

3-2842

3-1/2"x5-1/4" PSL Post

Comp Nook

7'

2-TWT2810 2-2842

2-TWT2810 2-2842

3'-6"

6' | 6'

8' | 5'-8 1/4" | 4'-3 3/4" | 8' | 5' | 5'

13'-8 1/4" | 12'-3 3/4" | 2' | 10' | 2'

6'-5" | 12' | 6'-5" | 3'-2" | 26' | 14'

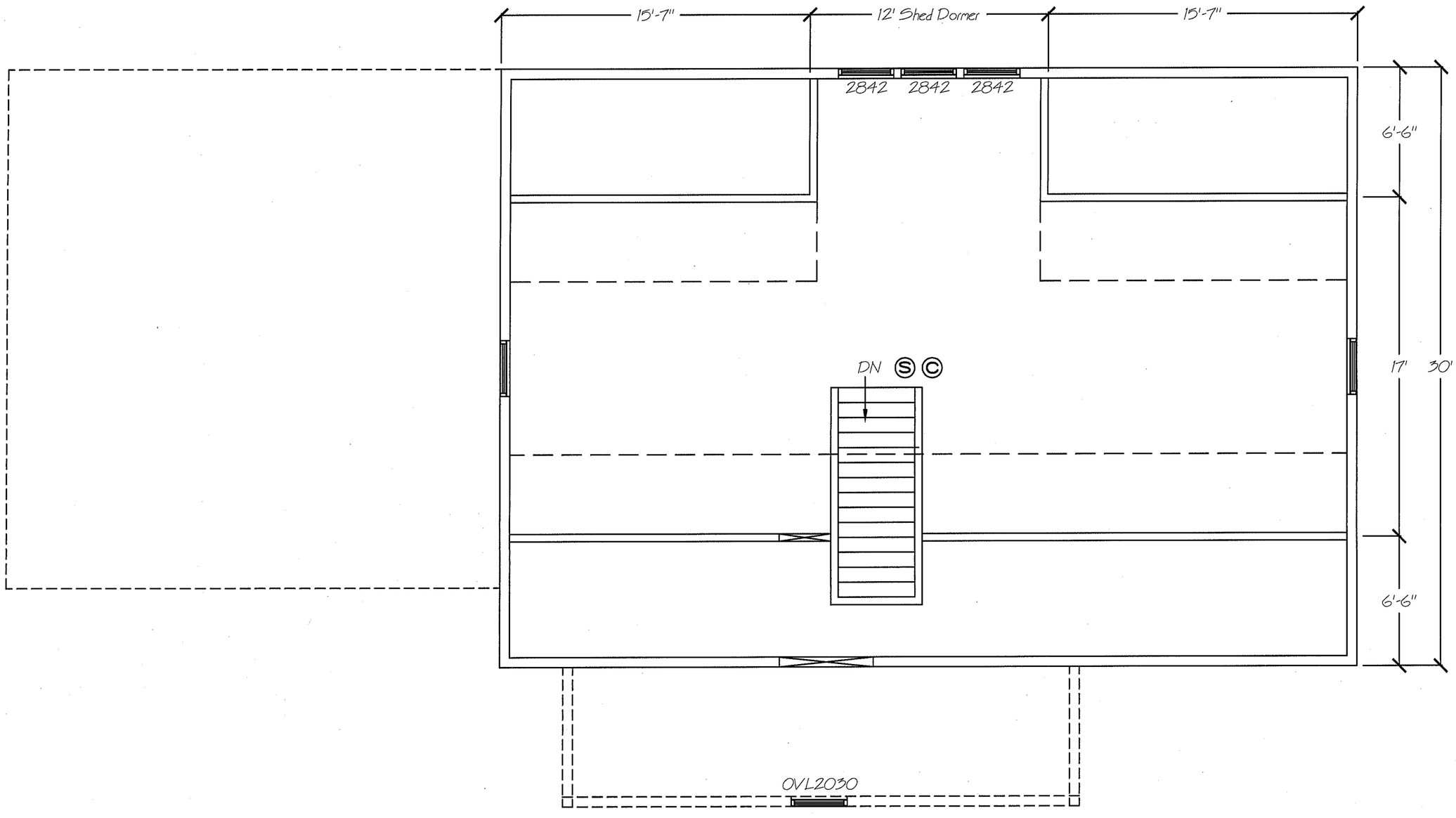
68'

2nd Floor Layout

Scale: 3/16" = 1'0"

6

KDK DESIGN

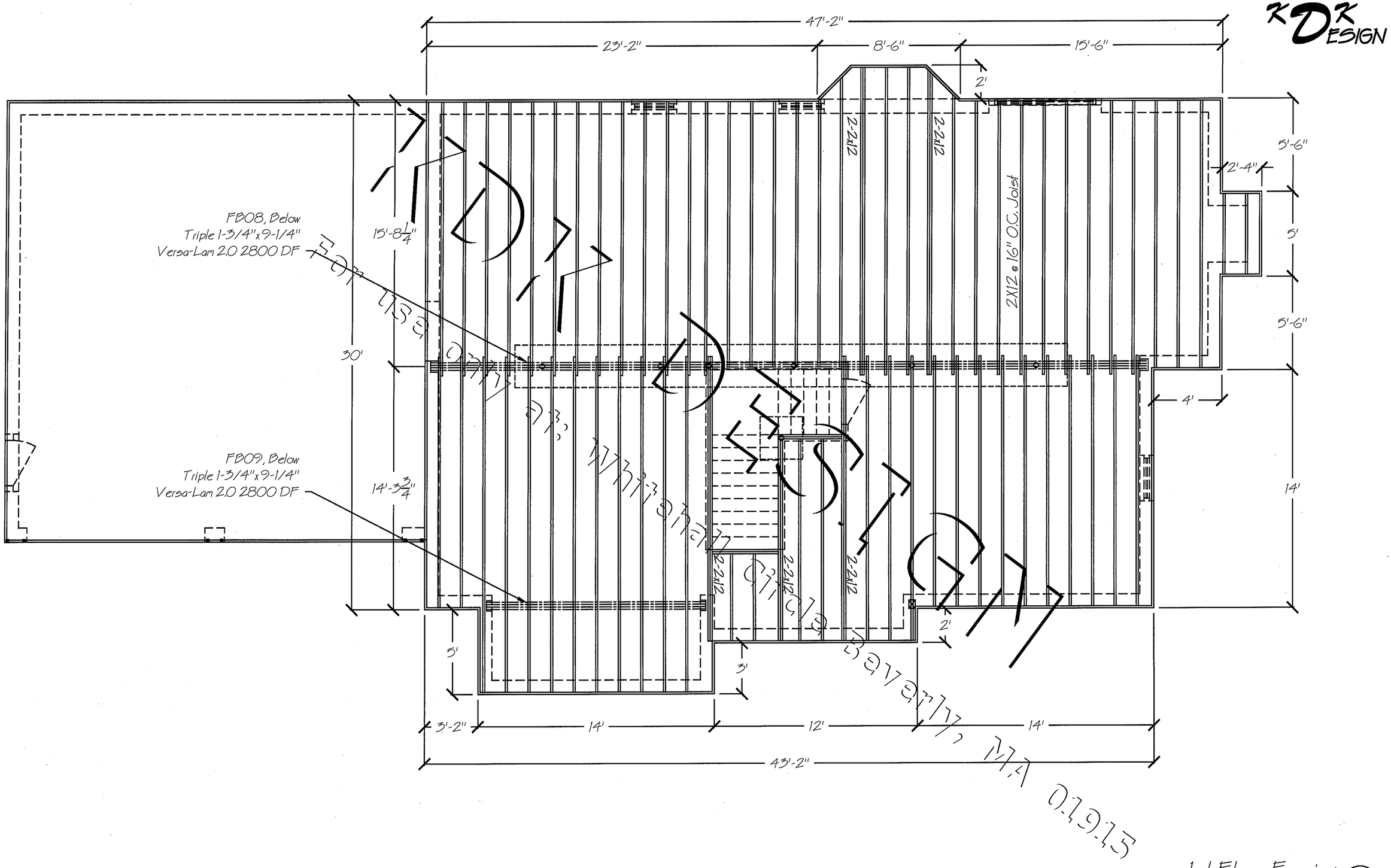


Attic Floor Layout

Scale: 3/16" = 1'0"

7

KDK DESIGN



1st Floor Framing ⑧

Scale: 3/16" = 1'0"

KDK DESIGN

24'-10"

43'-2"

FB07, Flush
Triple 1-3/4"x18"
Versa-Lam 2.0 2800 DF

FB06, Flush
Double 1-3/4"x9-1/4"
Versa-Lam 2.0 2800 DF

8'-6"

6" Overhang, Gambrel
See Cross Section

11'-7½"

26'

14'-4½"

16'

2X10 @ 16" O.C. Joist

3-2x10

3-2x10

2-2x12

2-2x12

2-2x12

2-2x10

2-2x10

2-2x10

6" Overhang

6'-5"

12' Shed Dormer Above

6'-5"

These Joist To Be
2x10 @12" o.c.

Garage Door Header, Continuous
Triple 1-3/4"x11-1/4" LVL

3-1/2"x5-1/4"
PSL Post

2'-8"

6" Overhang
Typ. See
Cross Sect.

7'

2-2x10, Flush

10'

2'

6" Overhang
Gambrel Roof
Section

1'-6"

12"Ø Sonotube
W/Bigfoot BF28
4' Below Grade
W/Anchor Bolt
6x6 P.T. Post

FB03, 4-2x10 Flush
Both Ends

1'

13'-6"

11'-6"

1'

27'

13'-6"

FB04, 4-2x12 Below

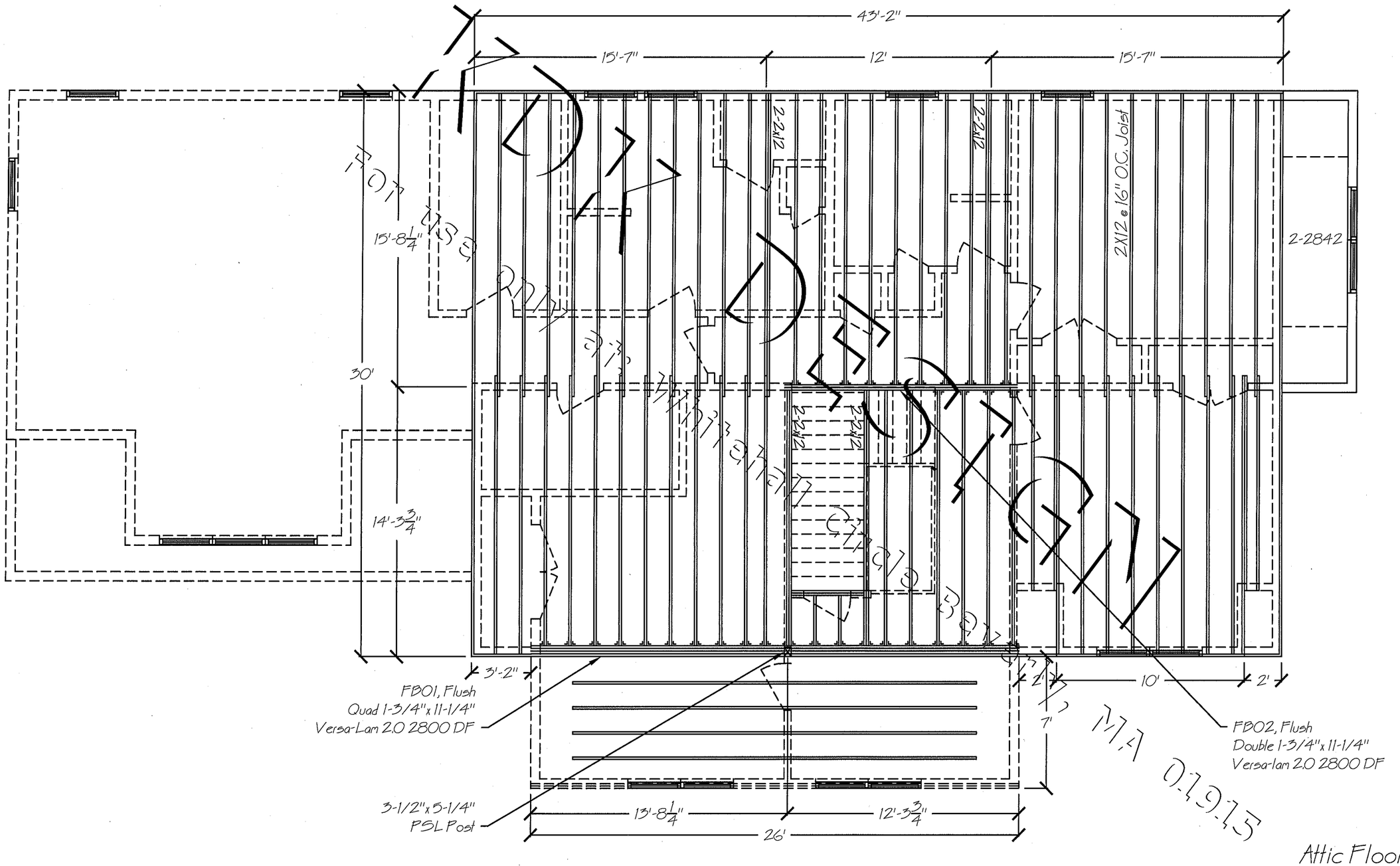
FB05, Flush
Triple 1-3/4"x9-1/4"
Versa-Lam 2.0 2800 DF

2nd Floor Framing

Scale: 3/16" = 1'0"

9

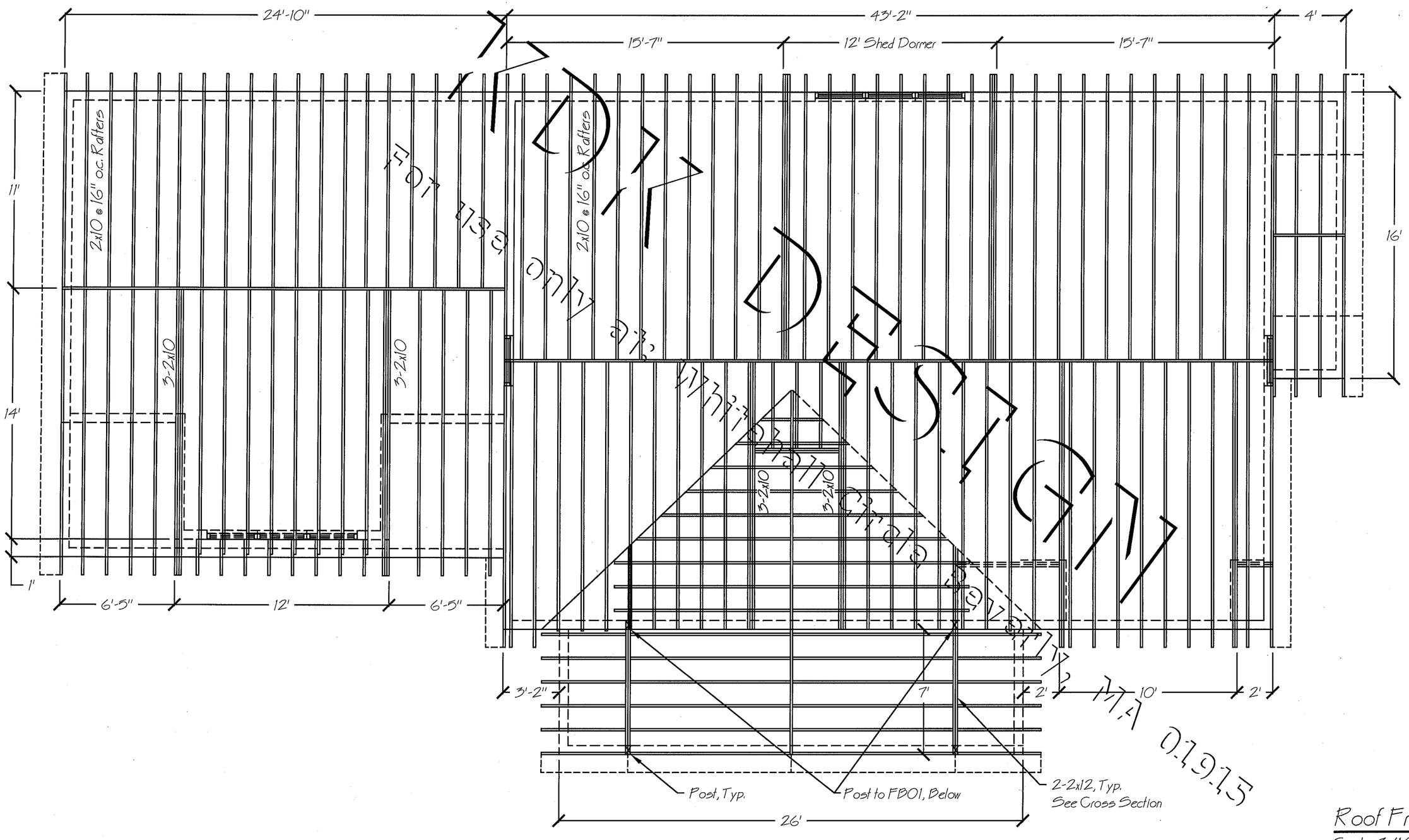
KDK DESIGN



Attic Floor Framing (10)

Scale: 3/16" = 1'0"

KDK DESIGN

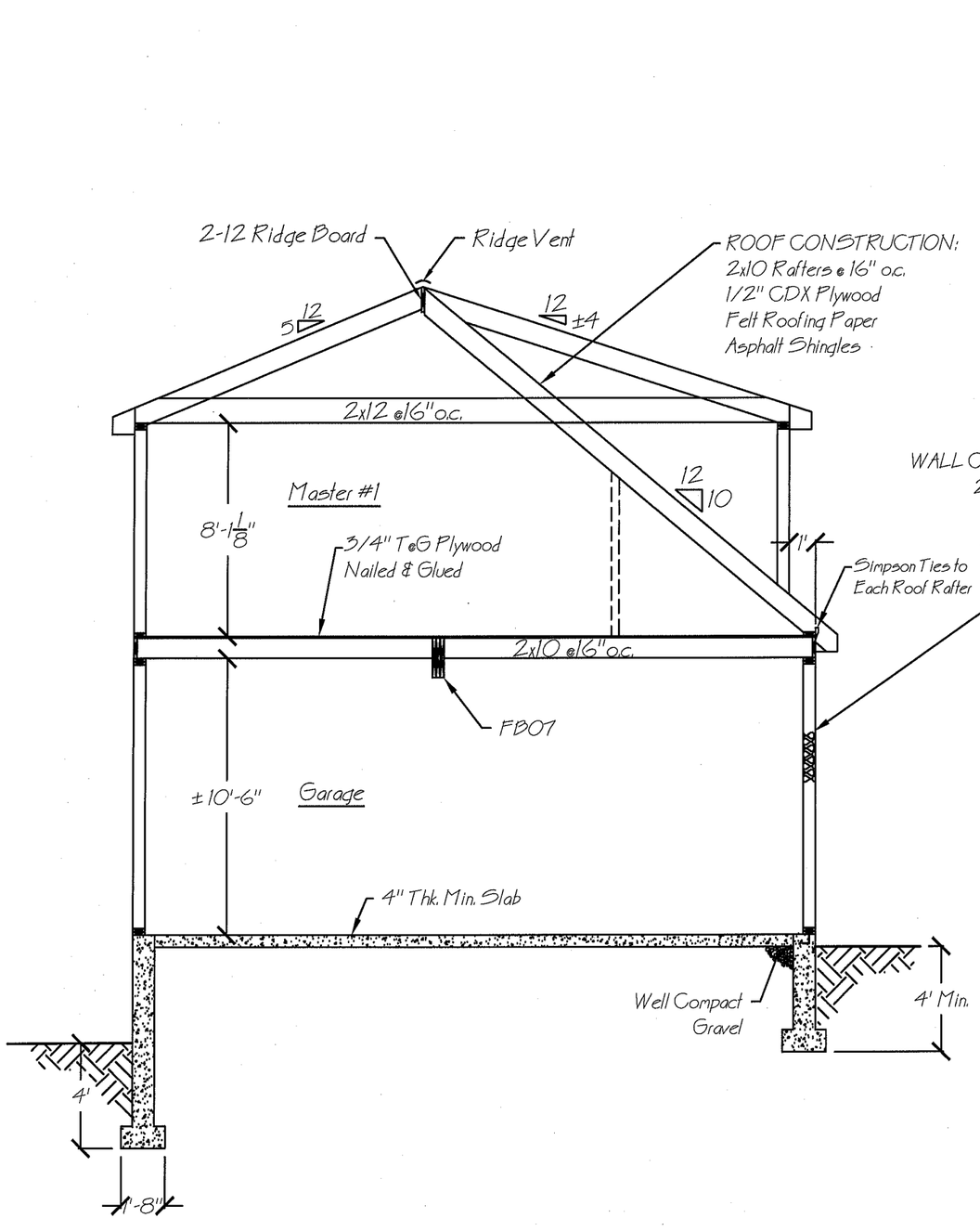


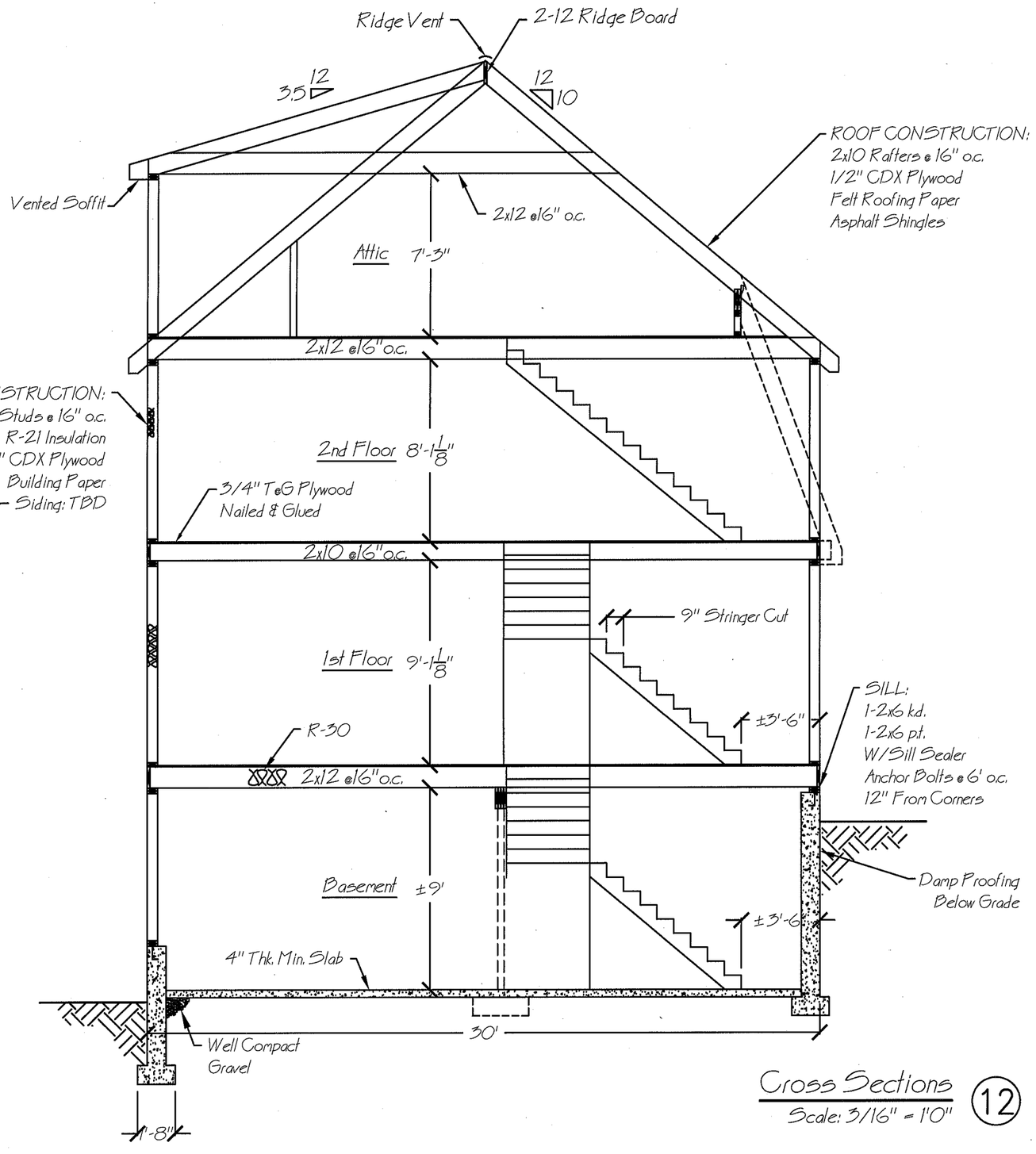
Roof Framing

Scale: 3/16" = 1'0"

11

KDK DESIGN



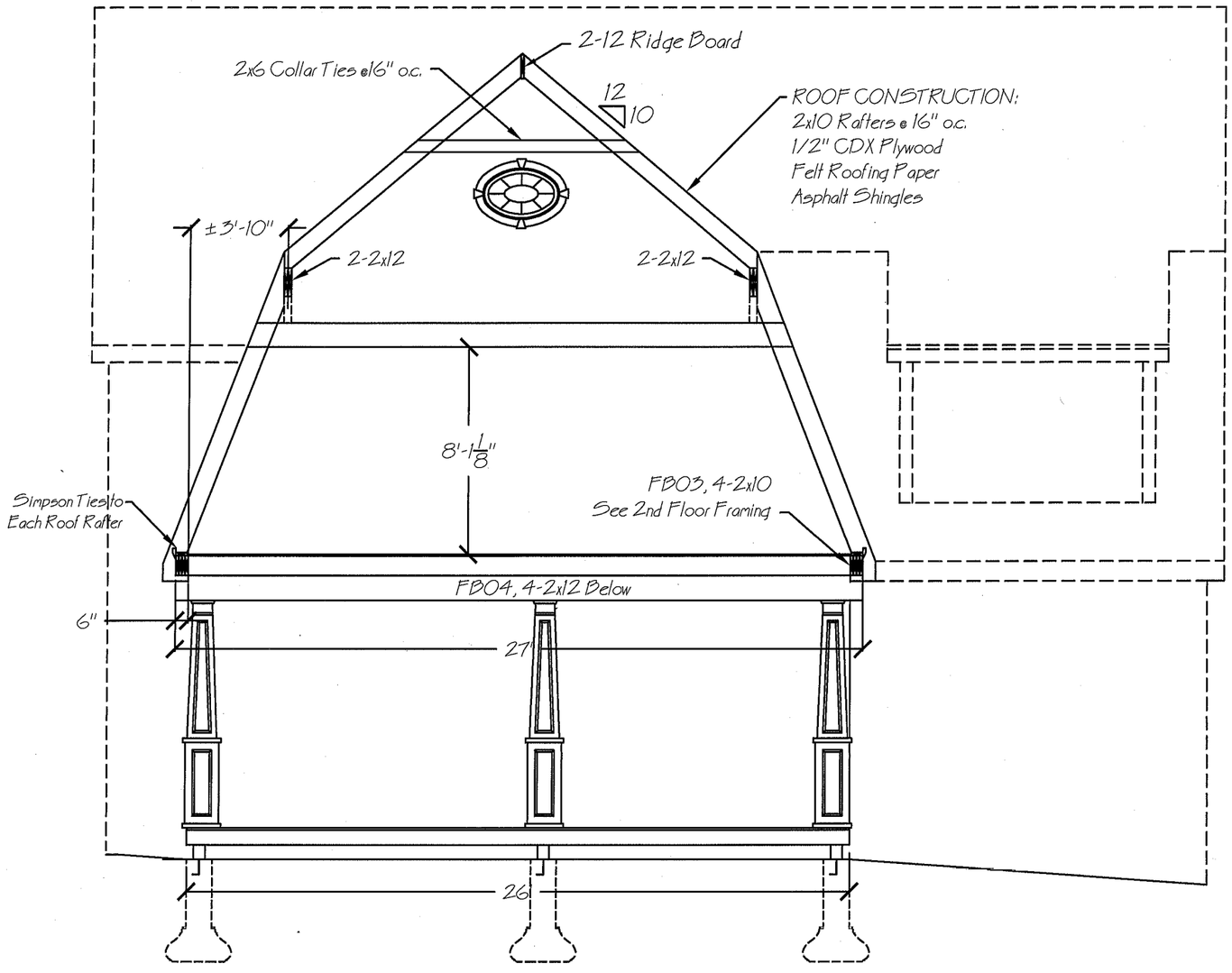


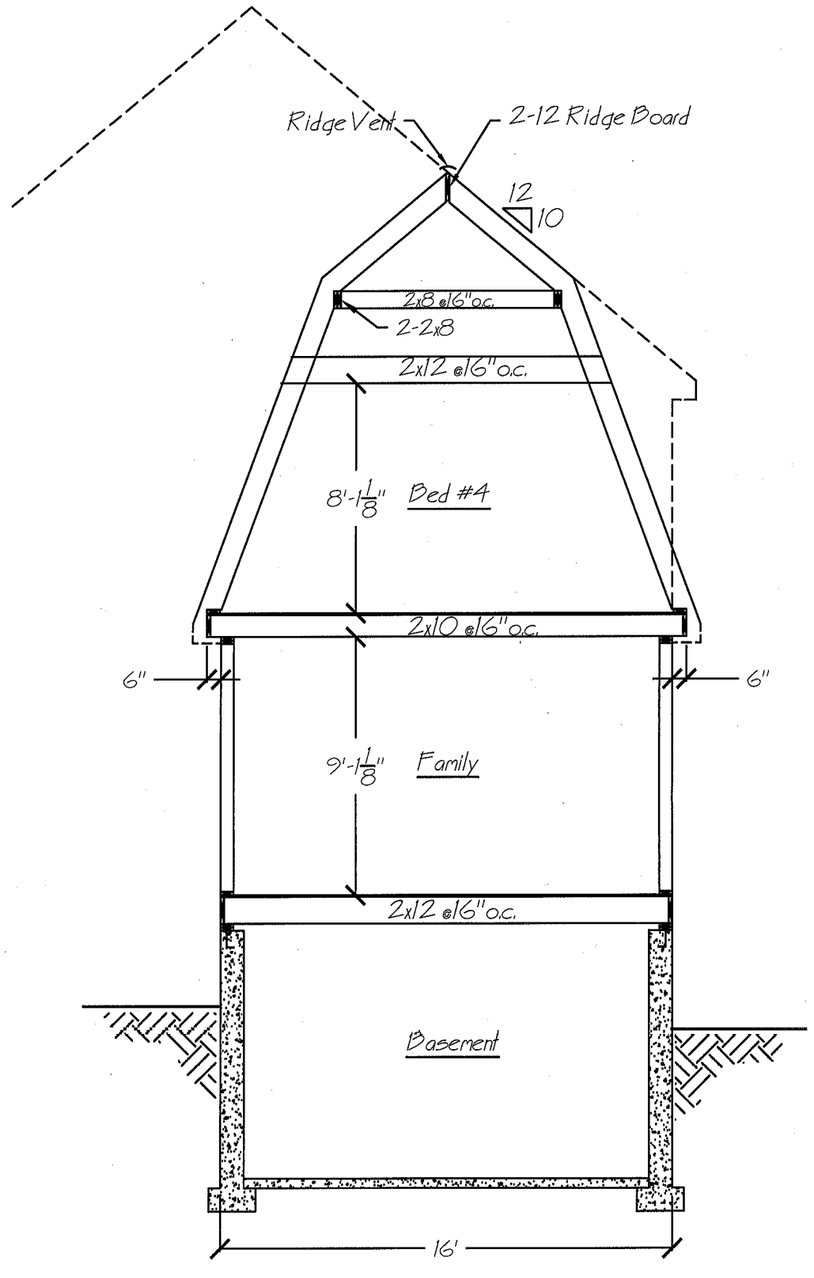
Cross Sections

Scale: 3/16" = 1'0"

12

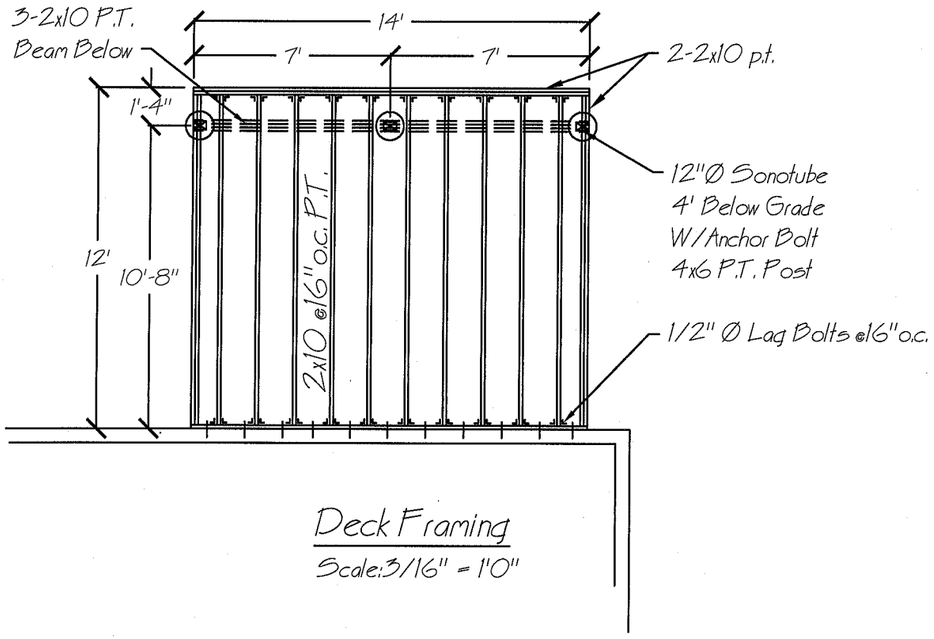
KDK DESIGN





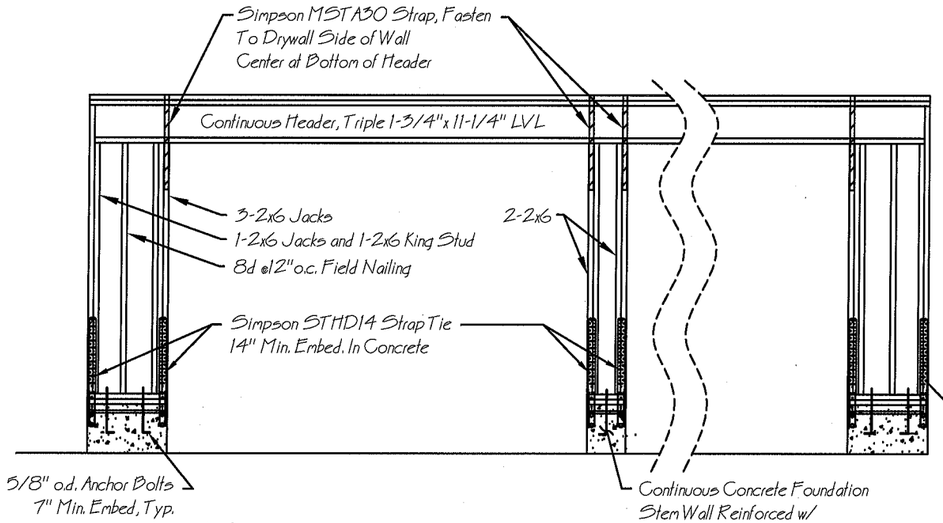
Cross Sections
Scale: 3/16" = 1'0"

13



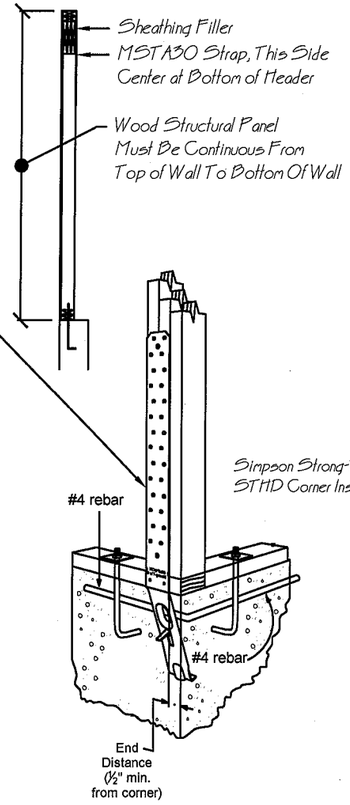
Deck Framing

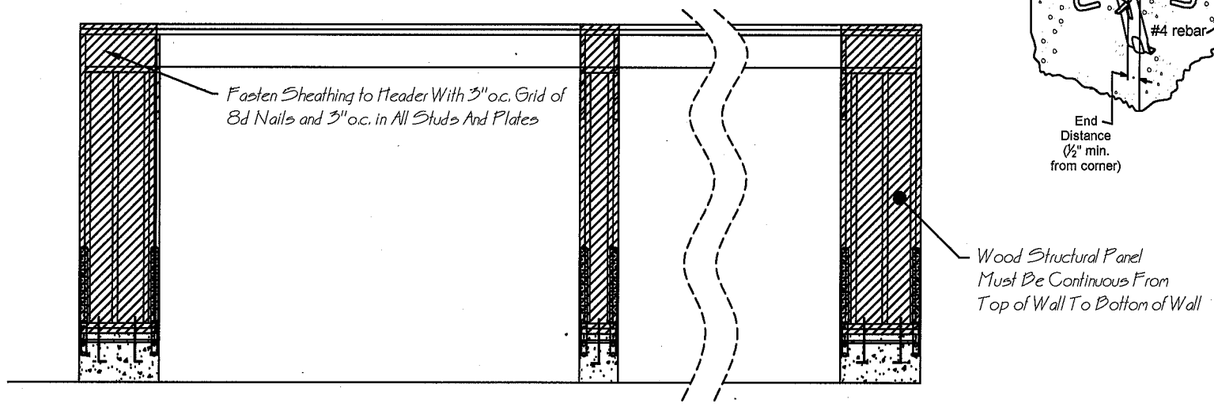
Scale: 3/16" = 1'0"



Detail "A"

Shearwall, Scale: None





Details

Scale: 3/16" = 1'0"

Boise Cascade

Quadruple 1-3/4" x 11-1/4" VERSA-LAM® 2.0 2800 DF Floor Beam\FB01

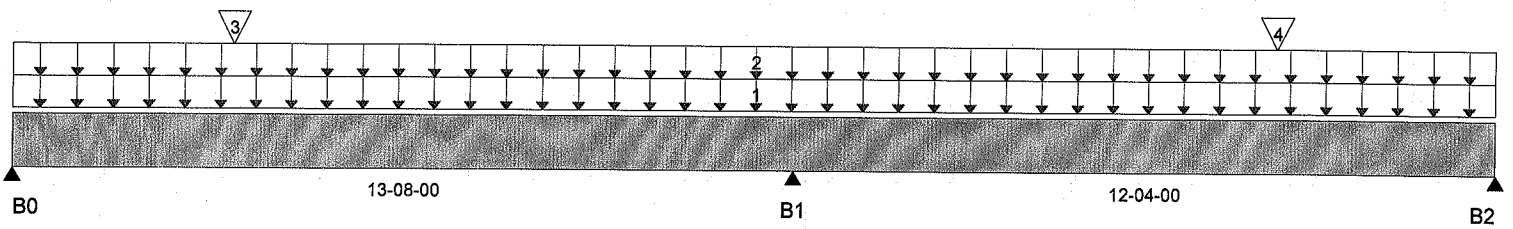
BC CALC® Design Report

Dry | 2 spans | No cantilevers | 0/12 slope

July 31, 2016 16:11:40

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB01
Specifier: Floor/Roof Support Beam
Designer: KK
Company: KDK Design
Misc: See Attic Floor Framing



Total of Horizontal Design Spans = 26-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0	5,430 / 593	1,555 / 0			
B1	14,055 / 0	4,346 / 0			
B2	4,996 / 879	1,333 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	Attic Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	26-00-00	30	10				07-02-00
2	Roof Load	Unf. Area (lb/ft^2)	L	00-00-00	26-00-00	40	10				15-00-00
3	Gable Ridge Point ...	Conc. Pt. (lbs)	L	03-10-00	03-10-00	910	472				n/a
4	Gable Ridge Point ...	Conc. Pt. (lbs)	R	03-10-00	03-10-00	910	472				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	20,151 ft-lbs	58.1%	100%	2	05-04-01
Neg. Moment	-24,921 ft-lbs	71.8%	100%	1	13-08-00
Neg. Moment	-24,921 ft-lbs	71.8%	100%	1	13-08-00
End Shear	5,918 lbs	39.6%	100%	2	01-00-02
Cont. Shear	8,288 lbs	55.4%	100%	1	12-07-00
Total Load Defl.	L/460 (0.356")	52.1%	n/a	2	06-03-09
Live Load Defl.	L/559 (0.293")	64.4%	n/a	5	06-03-09
Total Neg. Defl.	L/999 (-0.086")	n/a	n/a	2	17-10-09
Max Defl.	0.356"	35.6%	n/a	2	06-03-09
Span / Depth	14.6	n/a	n/a	0	00-00-00

Notes

Entered/Displayed Horizontal Span Length(s) = Clear Span + 1/2 min. end bearing + 1/2 intermediate bearing
Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum total load deflection criteria.
Minimum bearing length for B0 is 1-1/2".
Minimum bearing length for B1 is 3-1/2".
Minimum bearing length for B2 is 1-1/2".
Calculations assume Member is Fully Braced.
Design based on Dry Service Condition.
Deflections less than 1/8" were ignored in the results.
Fastener Manufacturer:Simpson Strong-Tie, Inc.

Boise Cascade

Quadruple 1-3/4" x 11-1/4" VERSA-LAM® 2.0 2800 DF Floor Beam\FB01

BC CALC® Design Report

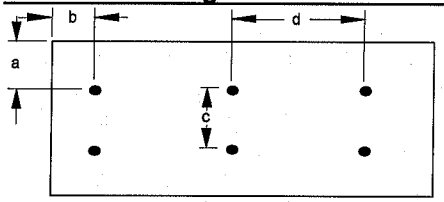
Dry | 2 spans | No cantilevers | 0/12 slope

July 31, 2016 16:11:40

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB01
Specifier: Floor/Roof Support Beam
Designer: KK
Company: KDK Design
Misc: See Attic Floor Framing

Connection Diagram



a minimum = 1-1/2" c = 8-1/4"
b minimum = 6" d = 24"
e minimum = 1"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.
Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.
Install Screws with screw heads in the loaded ply.
Member has no side loads.
Connectors are: SDW22634

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade

Double 1-3/4" x 11-1/4" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB02

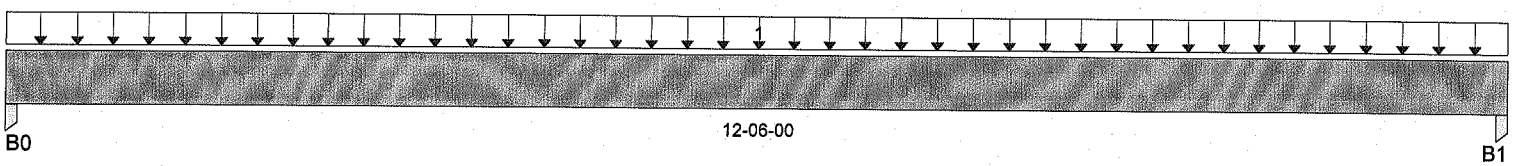
BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope

July 31, 2016 23:13:13

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB02
Specifier: Floor Support Beam
Designer: KK
Company: KDK Design
Misc: See Attic Floor Framing



Total Horizontal Product Length = 12-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	2,812 / 0	1,001 / 0			
B1, 3-1/2"	2,812 / 0	1,001 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	Attic Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	12-06-00	30	10				15-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	11,059 ft-lbs	63.7%	100%	1	06-03-00
End Shear	3,063 lbs	40.9%	100%	1	01-02-12
Total Load Defl.	L/416 (0.348")	57.7%	n/a	1	06-03-00
Live Load Defl.	L/564 (0.256")	63.9%	n/a	2	06-03-00
Max Defl.	0.348"	34.8%	n/a	1	06-03-00
Span / Depth	12.8	n/a	n/a	0	00-00-00

Bearing Supports

		Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post	3-1/2" x 3-1/2"	3,813 lbs	n/a	41.5%	Unspecified
B1	Post	3-1/2" x 3-1/2"	3,813 lbs	n/a	41.5%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum total load deflection criteria.
Calculations assume Member is Fully Braced.
Design based on Dry Service Condition.
Deflections less than 1/8" were ignored in the results.

Boise Cascade

Double 1-3/4" x 11-1/4" VERSA-LAM® 2.0 2800 DF — Floor Beam\FB02

Dry | 1 span | No cantilevers | 0/12 slope

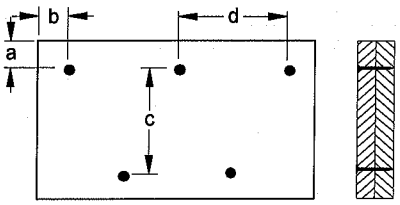
July 31, 2016 23:13:13

BC CALC® Design Report

Build 4516

Job Name:	Logsdon	File Name:	Logsdon
Address:	13 Whitehall Circle	Description:	Designs\FB02
City, State, Zip:	Beverly, MA 01915	Specifier:	Floor Support Beam
Customer:		Designer:	KK
Code reports:	ESR-1040	Company:	KDK Design
		Misc:	See Attic Floor Framing

Connection Diagram



a minimum = 2" c = 7-1/4"
b minimum = 3" d = 24"

Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade

Quadruple 2 x 10 SPF #2

Dry | 1 span | No cantilevers | 0/12 slope

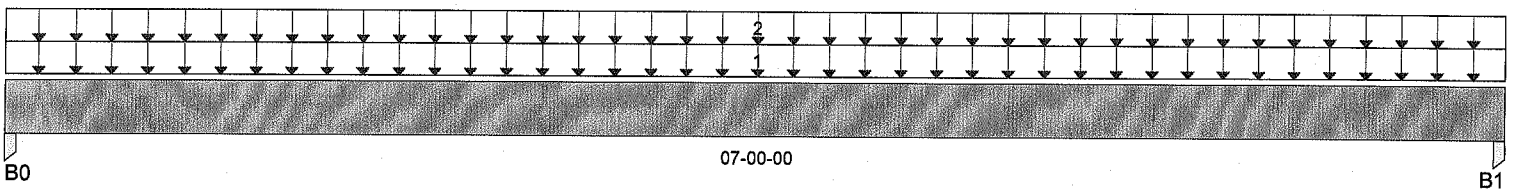
Floor Beam\FB03

August 1, 2016 02:38:36

BC CALC® Design Report

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: NLGA

File Name: Logsdon
Description: Designs\FB03
Specifier: Floor/Roof Support Beam
Designer: KK
Company: KDK Design
Misc: See 2nd Floor Framing



Total Horizontal Product Length = 07-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	2,625 / 0	1,235 / 0			
B1, 3-1/2"	2,625 / 0	1,235 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	2nd Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	07-00-00	30	10				07-00-00
2	Roof Load	Unf. Area (lb/ft^2)	L	00-00-00	07-00-00	40	20				13-06-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	5,899 ft-lbs	86%	100%	1	03-06-00
End Shear	2,688 lbs	53.8%	100%	1	01-00-12
Total Load Defl.	L/999 (0.082")	n/a	n/a	1	03-06-00
Live Load Defl.	L/999 (0.056")	n/a	n/a	2	03-06-00
Max Defl.	0.082"	n/a	n/a	1	03-06-00
Span / Depth	8.5	n/a	n/a	0	00-00-00

Bearing Supports

		Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post	3-1/2" x 3-1/2"	3,860 lbs	n/a	74.1%	Unspecified
B1	Post	3-1/2" x 3-1/2"	3,860 lbs	n/a	74.1%	Unspecified

Cautions

Member is not fully supported at post B0. A connector is required at this bearing.
Member is not fully supported at post B1. A connector is required at this bearing.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum total load deflection criteria.
Calculations assume Member is Fully Braced.
Design based on Dry Service Condition.
The analysis of solid sawn wood members is in accordance with the NDS and is limited to the output shown above. All other support and design for these products, including but not limited to notching, connections, installation, and engineer/architect certification is the responsibility of the project's design professional of record.
Deflections less than 1/8" were ignored in the results.

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade

Quadruple 2 x 12 SPF #2

Floor Beam\FB04

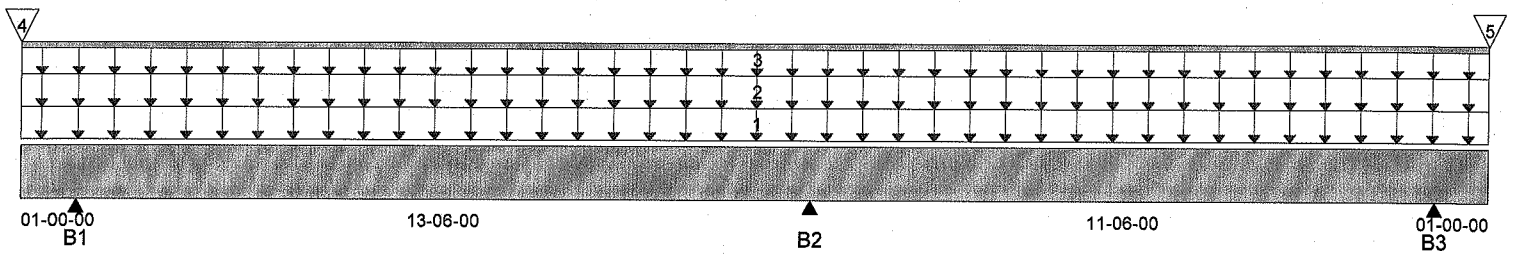
BC CALC® Design Report

Dry | 4 spans | Left & Right cantilevers | 0/12 slope

August 1, 2016 02:38:22

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: NLGA

File Name: Logsdon
Description: Designs\FB04
Specifier: Floor/Roof Support Beam
Designer: KK
Company: KDK Design
Misc: See 2nd Floor Framing



Total of Horizontal Design Spans = 27-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1	3,560 / 0	3,032 / 0			
B2	1,466 / 0	3,787 / 0			
B3	3,542 / 0	2,729 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	2nd Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	27-00-00	30	10				01-04-00
2	Roof Load	Unf. Area (lb/ft^2)	L	00-00-00	27-00-00	40	10				01-04-00
3	Gable Wall Load	Unf. Lin. (lb/ft)	L	00-00-00	27-00-00	0	220				n/a
4	FB03 Point Load	Conc. Pt. (lbs)	L	00-00-00	00-00-00	2,625	1,235				n/a
5	FB03 Point Load	Conc. Pt. (lbs)	R	00-00-00	00-00-00	2,625	1,235				n/a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	4,986 ft-lbs	54%	100%	3	07-00-08
Neg. Moment	-6,393 ft-lbs	69.3%	100%	5	14-06-00
Neg. Moment	-6,393 ft-lbs	69.3%	100%	5	14-06-00
Cont. Shear	4,160 lbs	68.5%	100%	3	26-01-12
Total Load Defl.	L/1,155 (0.14")	20.8%	n/a	3	07-04-12
Live Load Defl.	L/999 (0.059")	n/a	n/a	9	07-06-14
Total Neg. Defl.	2xL/1,998 (-0.032")	n/a	n/a	3	00-00-00
Max Defl.	0.14"	14%	n/a	3	07-04-12
Cant. Max Defl.	-0.032"	n/a	n/a	3	00-00-00
Span / Depth	14.4	n/a	n/a	0	00-00-00

Notes

Boise Cascade

Quadruple 2 x 12 SPF #2

Dry | 4 spans | Left & Right cantilevers | 0/12 slope

Floor Beam\FB04

August 1, 2016 02:38:22

BC CALC® Design Report

Build 4516

Job Name:	Logsdon	File Name:	Logsdon
Address:	13 Whitehall Circle	Description:	Designs\FB04
City, State, Zip:	Beverly, MA 01915	Specifier:	Floor/Roof Support Beam
Customer:		Designer:	KK
Code reports:	NLGA	Company:	KDK Design
		Misc:	See 2nd Floor Framing

Entered/Displayed Horizontal Span Length(s) = Clear Span + 1/2 min. end bearing + 1/2 intermediate bearing
Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum total load deflection criteria.
Design meets arbitrary (1") Cantilever Maximum total load deflection criteria.
Minimum bearing length for B1 is 2-9/16".
Minimum bearing length for B2 is 2-1/16".
Minimum bearing length for B3 is 2-7/16".
Calculations assume Member is Fully Braced.
Design based on Dry Service Condition.
The analysis of solid sawn wood members is in accordance with the NDS and is limited to the output shown above. All other support and design for these products, including but not limited to notching, connections, installation, and engineer/architect certification is the responsibility of the project's design professional of record.
Deflections less than 1/8" were ignored in the results.

Boise Cascade

Triple 1-3/4" x 9-1/4" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB05

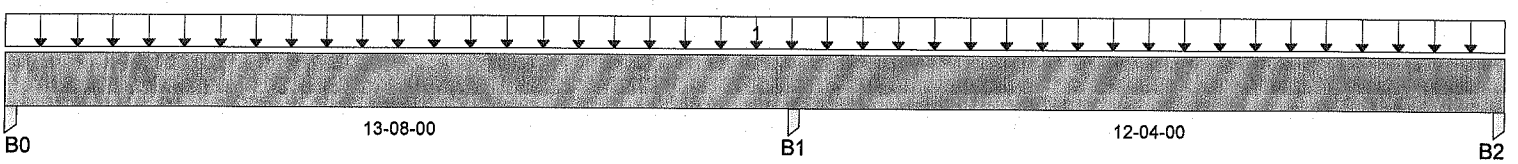
Dry | 2 spans | No cantilevers | 0/12 slope

August 2, 2016 02:33:09

BC CALC® Design Report

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB05
Specifier: Floor Support Beam
Designer: KK
Company: KDK Design
Misc: See 2nd Floor Framing



Total Horizontal Product Length = 26-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	1,455 / 155	501 / 0			
B1, 3-1/2"	3,840 / 0	1,480 / 0			
B2, 3-1/2"	1,335 / 235	424 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	2nd Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	26-00-00	30	10				08-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	5,316 ft-lbs	29.6%	100%	2	05-09-12
Neg. Moment	-6,834 ft-lbs	38%	100%	1	13-08-00
Neg. Moment	-6,834 ft-lbs	38%	100%	1	13-08-00
End Shear	1,603 lbs	17.4%	100%	2	01-00-12
Cont. Shear	2,438 lbs	26.4%	100%	1	12-09-00
Total Load Defl.	L/733 (0.22")	32.8%	n/a	2	06-04-05
Live Load Defl.	L/923 (0.175")	39%	n/a	5	06-06-08
Total Neg. Defl.	L/999 (-0.051")	n/a	n/a	2	17-07-14
Max Defl.	0.22"	22%	n/a	2	06-04-05
Span / Depth	17.4	n/a	n/a	0	00-00-00

Bearing Supports

		Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post	3-1/2" x 3-1/2"	1,956 lbs	n/a	21.3%	Unspecified
B1	Post	3-1/2" x 3-1/2"	5,319 lbs	n/a	57.9%	Unspecified
B2	Post	3-1/2" x 3-1/2"	1,759 lbs	n/a	19.1%	Unspecified

Cautions

Member is not fully supported at post B0. A connector is required at this bearing.
Member is not fully supported at post B1. A connector is required at this bearing.
Member is not fully supported at post B2. A connector is required at this bearing.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum total load deflection criteria.
Calculations assume Member is Fully Braced.
Design based on Dry Service Condition.
Deflections less than 1/8" were ignored in the results.

Boise Cascade

Triple 1-3/4" x 9-1/4" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB05

Dry | 2 spans | No cantilevers | 0/12 slope

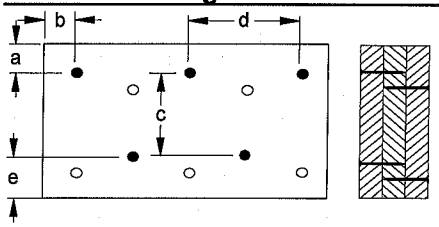
August 2, 2016 02:33:09

BC CALC® Design Report

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB05
Specifier: Floor Support Beam
Designer: KK
Company: KDK Design
Misc: See 2nd Floor Framing

Connection Diagram



a minimum = 2" c = 4-1/4"
b minimum = 3" d = 24"
e minimum = 3"

Nailing schedule applies to both sides of the member.
Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade

Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB06

Dry | 1 span | No cantilevers | 0/12 slope

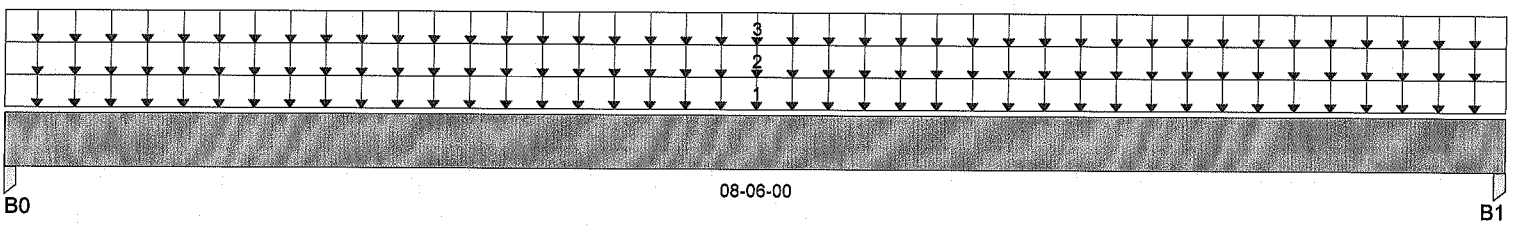
August 1, 2016 03:03:24

BC CALC® Design Report

Build 4516

Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB06
Specifier: Floor/Roof Support Beam
Designer: KK
Company: KDK Design
Misc: See 2nd Floor Framing



Total Horizontal Product Length = 08-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	4,590 / 0	1,353 / 0			
B1, 3-1/2"	4,590 / 0	1,353 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	2nd Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	08-06-00	30	10				08-00-00
2	Attic Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	08-06-00	30	10				08-00-00
3	Roof Load	Unf. Area (lb/ft^2)	L	00-00-00	08-06-00	40	10				15-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	11,303 ft-lbs	94.3%	100%	1	04-03-00
End Shear	4,457 lbs	72.5%	100%	1	01-00-12
Total Load Defl.	L/339 (0.285")	70.9%	n/a	1	04-03-00
Live Load Defl.	L/438 (0.22")	82.1%	n/a	2	04-03-00
Max Defl.	0.285"	28.5%	n/a	1	04-03-00
Span / Depth	10.4	n/a	n/a	0	00-00-00

Bearing Supports

		Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post	3-1/2" x 3-1/2"	5,943 lbs	n/a	64.7%	Unspecified
B1	Post	3-1/2" x 3-1/2"	5,943 lbs	n/a	64.7%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum total load deflection criteria.
Calculations assume Member is Fully Braced.
Design based on Dry Service Condition.
Deflections less than 1/8" were ignored in the results.

Boise Cascade

Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB06

Dry | 1 span | No cantilevers | 0/12 slope

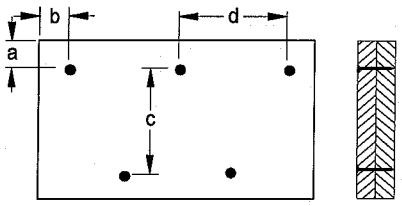
August 1, 2016 03:03:24

BC CALC® Design Report

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB06
Specifier: Floor/Roof Support Beam
Designer: KK
Company: KDK Design
Misc: See 2nd Floor Framing

Connection Diagram



a minimum = 2" c = 5-1/4"
b minimum = 3" d = 24"

Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade

Triple 1-3/4" x 18" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB07

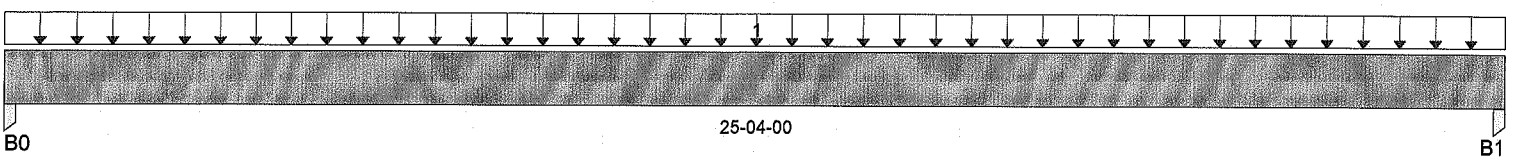
Dry | 1 span | No cantilevers | 0/12 slope

August 1, 2016 03:15:04

BC CALC® Design Report

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB07
Specifier: Floor Support Beam
Designer: KK
Company: KDK Design
Misc: See 2nd Floor Framing



Total Horizontal Product Length = 25-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	4,940 / 0	1,954 / 0			
B1, 3-1/2"	4,940 / 0	1,954 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	2nd Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	25-04-00	30	10				13-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	42,098 ft-lbs	66.6%	100%	1	12-08-00
End Shear	5,919 lbs	33%	100%	1	01-09-08
Total Load Defl.	L/325 (0.919")	73.9%	n/a	1	12-08-00
Live Load Defl.	L/453 (0.658")	79.4%	n/a	2	12-08-00
Max Defl.	0.919"	91.9%	n/a	1	12-08-00
Span / Depth	16.6	n/a	n/a	0	00-00-00

Bearing Supports

		Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post	3-1/2" x 3-1/2"	6,894 lbs	n/a	75%	Unspecified
B1	Post	3-1/2" x 3-1/2"	6,894 lbs	n/a	75%	Unspecified

Cautions

Member is not fully supported at post B0. A connector is required at this bearing.
Member is not fully supported at post B1. A connector is required at this bearing.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum total load deflection criteria.
Calculations assume Member is Fully Braced.
Design based on Dry Service Condition.
Deflections less than 1/8" were ignored in the results.

Boise Cascade

Triple 1-3/4" x 18" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB07

Dry | 1 span | No cantilevers | 0/12 slope

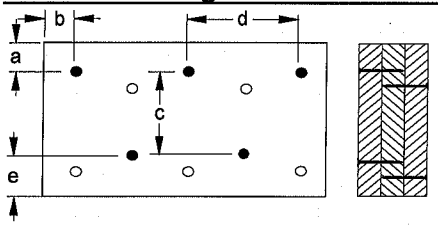
August 1, 2016 03:15:04

BC CALC® Design Report

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB07
Specifier: Floor Support Beam
Designer: KK
Company: KDK Design
Misc: See 2nd Floor Framing

Connection Diagram



a minimum = 2" c = 13"
b minimum = 3" d = 24"
e minimum = 3"

Nailing schedule applies to both sides of the member.
Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade

Triple 1-3/4" x 9-1/4" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB08

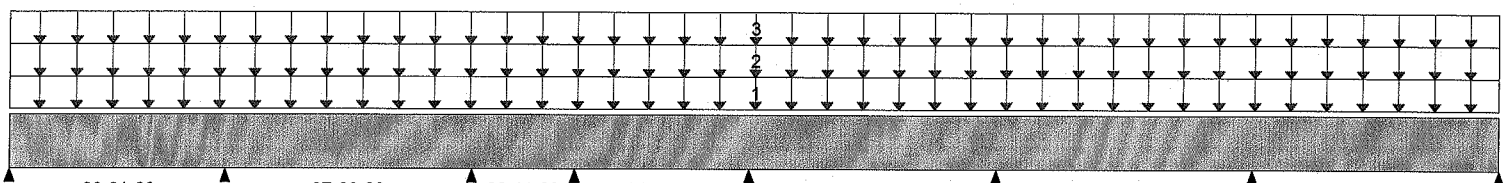
Dry | 7 spans | No cantilevers | 0/12 slope

August 2, 2016 02:44:10

BC CALC® Design Report

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB08
Specifier: Floor Support Beam
Designer: KK
Company: KDK Design
Misc: See 1st Floor Framing



Total of Horizontal Design Spans = 42-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0	4,006 / 591	1,053 / 0			
B1	11,496 / 0	3,496 / 0			
B2	10,683 / 292	2,518 / 0			
B3	8,481 / 2,119	1,233 / 0			
B4	11,118 / 0	2,984 / 0			
B5	12,160 / 0	3,289 / 0			
B6	12,888 / 0	3,741 / 0			
B7	4,693 / 591	1,265 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	1st Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	42-04-00	40	10				15-00-00
2	2nd Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	42-04-00	30	10				15-00-00
3	Attic Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	42-04-00	30	10				15-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	9,044 ft-lbs	50.3%	100%	2	39-03-06
Neg. Moment	-11,439 ft-lbs	63.6%	100%	9	35-04-00
Neg. Moment	-11,439 ft-lbs	63.6%	100%	9	35-04-00
End Shear	4,302 lbs	46.6%	100%	2	36-03-00
Cont. Shear	6,704 lbs	72.7%	100%	9	36-03-00
Uplift	-886 lbs	n/a	100%	5	16-00-00
Uplift	-886 lbs	n/a	100%	5	16-00-00
Total Load Defl.	L/999 (0.105")	n/a	n/a	2	39-00-06
Live Load Defl.	L/999 (0.087")	n/a	n/a	11	38-11-07
Total Neg. Defl.	L/999 (-0.046")	n/a	n/a	2	31-11-01
Max Defl.	0.105"	n/a	n/a	2	39-00-06
Span / Depth	9.5	n/a	n/a	0	00-00-00

Cautions

Uplift of -886 lbs found at span 3 - Right.
Uplift of -886 lbs found at span 4 - Left.

Notes

Boise Cascade

Triple 1-3/4" x 9-1/4" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB08

Dry | 7 spans | No cantilevers | 0/12 slope

August 2, 2016 02:44:10

BC CALC® Design Report

Build 4516

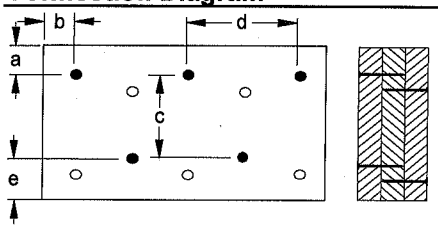
Job Name:	Logsdon	File Name:	Logsdon
Address:	13 Whitehall Circle	Description:	Designs\FB08
City, State, Zip:	Beverly, MA 01915	Specifier:	Floor Support Beam
Customer:		Designer:	KK
Code reports:	ESR-1040	Company:	KDK Design
		Misc:	See 1st Floor Framing

Entered/Displayed Horizontal Span Length(s) = Clear Span + 1/2 min. end bearing + 1/2 intermediate bearing
Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum total load deflection criteria.
Minimum bearing length for B0 is 1-1/2".
Minimum bearing length for B1 is 3-13/16".
Minimum bearing length for B2 is 3-3/8".
Minimum bearing length for B3 is 2-7/16".
Minimum bearing length for B4 is 3-9/16".
Minimum bearing length for B5 is 3-15/16".
Minimum bearing length for B6 is 4-1/4".
Minimum bearing length for B7 is 1-1/2".
Calculations assume Member is Fully Braced.
Design based on Dry Service Condition.
Deflections less than 1/8" were ignored in the results.

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Connection Diagram



a minimum = 2"
b minimum = 3"
c = 4-1/4"
d = 24"
e minimum = 3"

Nailing schedule applies to both sides of the member.
Member has no side loads.
Connectors are: 16d Sinker Nails

Boise Cascade

Triple 1-3/4" x 9-1/4" VERSA-LAM® 2.0 2800 DF

Floor Beam\FB09

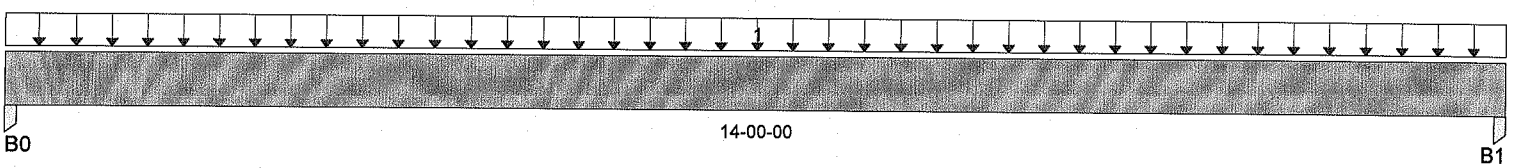
Dry | 1 span | No cantilevers | 0/12 slope

August 2, 2016 02:55:22

BC CALC® Design Report

Build 4516
Job Name: Logsdon
Address: 13 Whitehall Circle
City, State, Zip: Beverly, MA 01915
Customer:
Code reports: ESR-1040

File Name: Logsdon
Description: Designs\FB09
Specifier: Floor Support Beam
Designer: KK
Company: KDK Design
Misc: See 1st Floor Framing



Total Horizontal Product Length = 14-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B0, 3-1/2"	2,707 / 0	764 / 0			
B1, 3-1/2"	2,707 / 0	764 / 0			

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Trib.
1	1st Floor Load	Unf. Area (lb/ft^2)	L	00-00-00	14-00-00	40	10				09-08-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	11,365 ft-lbs	63.2%	100%	1	07-00-00
End Shear	2,944 lbs	31.9%	100%	1	01-00-12
Total Load Defl.	L/300 (0.542")	80%	n/a	1	07-00-00
Live Load Defl.	L/385 (0.422")	93.6%	n/a	2	07-00-00
Max Defl.	0.542"	54.2%	n/a	1	07-00-00
Span / Depth	17.6	n/a	n/a	0	00-00-00

Bearing Supports

		Dim. (L x W)	Value	% Allow Support	% Allow Member	Material
B0	Post	3-1/2" x 3-1/2"	3,471 lbs	n/a	37.8%	Unspecified
B1	Post	3-1/2" x 3-1/2"	3,471 lbs	n/a	37.8%	Unspecified

Cautions

Member is not fully supported at post B0. A connector is required at this bearing.
Member is not fully supported at post B1. A connector is required at this bearing.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum total load deflection criteria.
Calculations assume Member is Fully Braced.
Design based on Dry Service Condition.
Deflections less than 1/8" were ignored in the results.

Boise Cascade

Triple 1-3/4" x 9-1/4" VERSA-LAM® 2.0 2800 DF

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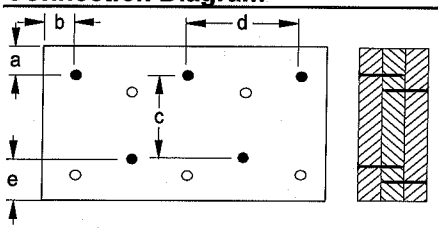
Connection Diagram



a minimum = 2"
b minimum = 3"
c = 4-1/4"
d = 24"
e minimum = 3"

Nailing schedule applies to both sides of the member.
Member has no side loads.
Connectors are: 16d Sinker Nails

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.