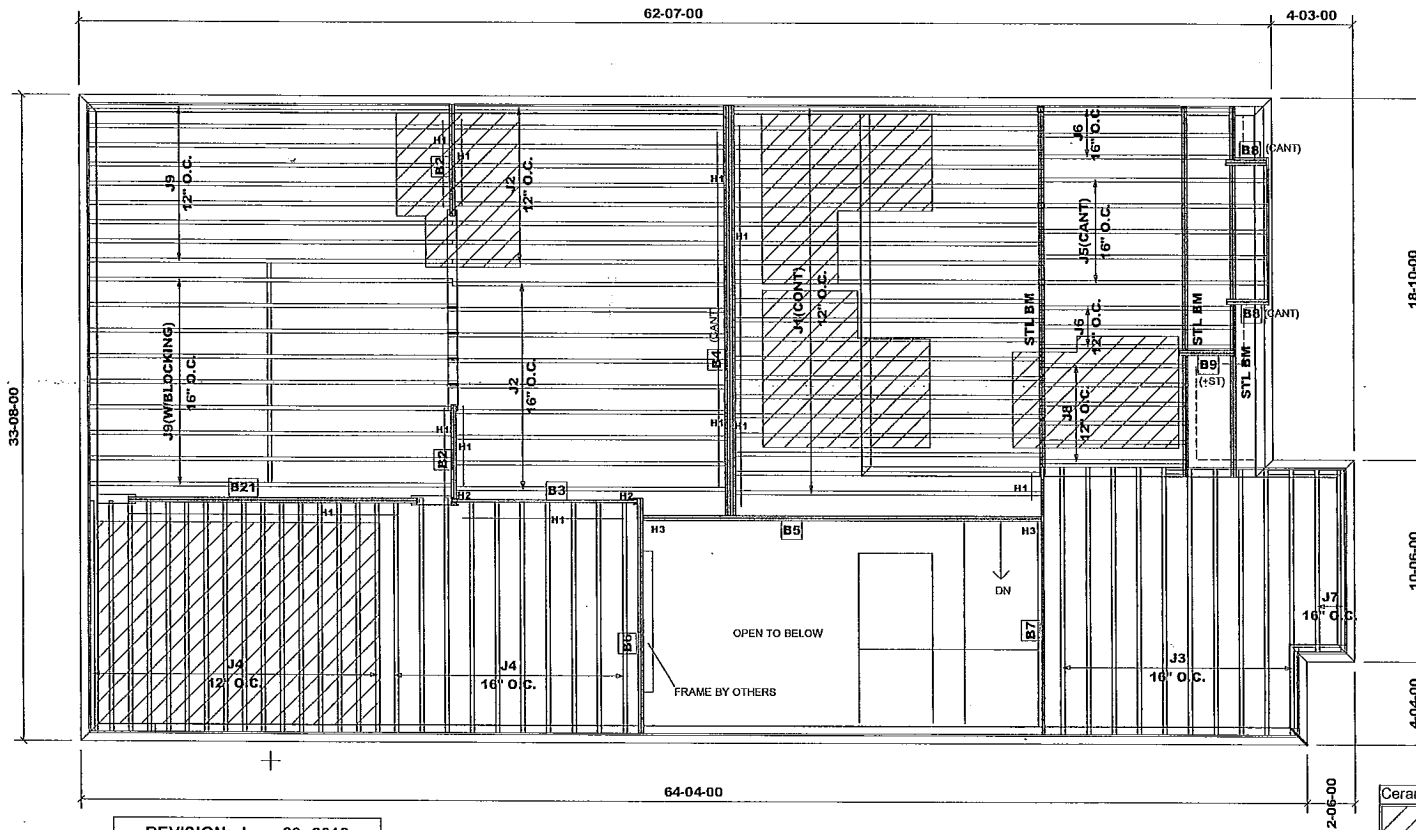




MODEL: UNIT 4203 - EL.A
+ OPT. LOGGIA

Second Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 38'

ENGINEERING FILE NO.
S- 152370 - 152389
S.157092

Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	11 7/8" NI-20	1	21
J2	15-00-00	11 7/8" NI-20	1	18
J3	14-00-00	11 7/8" NI-20	1	10
J4	13-00-00	11 7/8" NI-20	1	26
J5	12-00-00	11 7/8" NI-20	1	5
J6	11-00-00	11 7/8" NI-20	1	6
J7	10-00-00	11 7/8" NI-20	1	2
J8	8-00-00	11 7/8" NI-20	1	6
J9	20-00-00	11 7/8" NI-40x	1	18
B4	22-00-00	VERSALAM-12 2.0E	4	4
B5	21-00-00	VERSALAM-12 2.0E	2	2
B21	16-00-00	VERSALAM-12 2.0E	2	2
B7	14-00-00	VERSALAM-12 2.0E	1	1
B6	13-00-00	VERSALAM-12 2.0E	2	2
B3	10-00-00	VERSALAM-12 2.0E	1	1
B2	6-00-00	VERSALAM-12 2.0E	2	4
B8	3-00-00	VERSALAM-12 2.0E	2	4
B9	3-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)
H3-----HGUS410 (FM)

NOTE:

TM-----TOP MOUNT HANGERS
FM-----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

Provide I-Joist Blocking between cantilevered joists (along bearing) and rimboard closure at ends.

Provide I-Joist Blocking between continuous joists (along bearing)

1-2X8 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

JT/PL: 45147/98839

Builder: Gold Park

Location: Vaughan

Designer: NL

Alpa Roof Trusses Inc.

Salesperson: Derek

LI: 299727(290672)

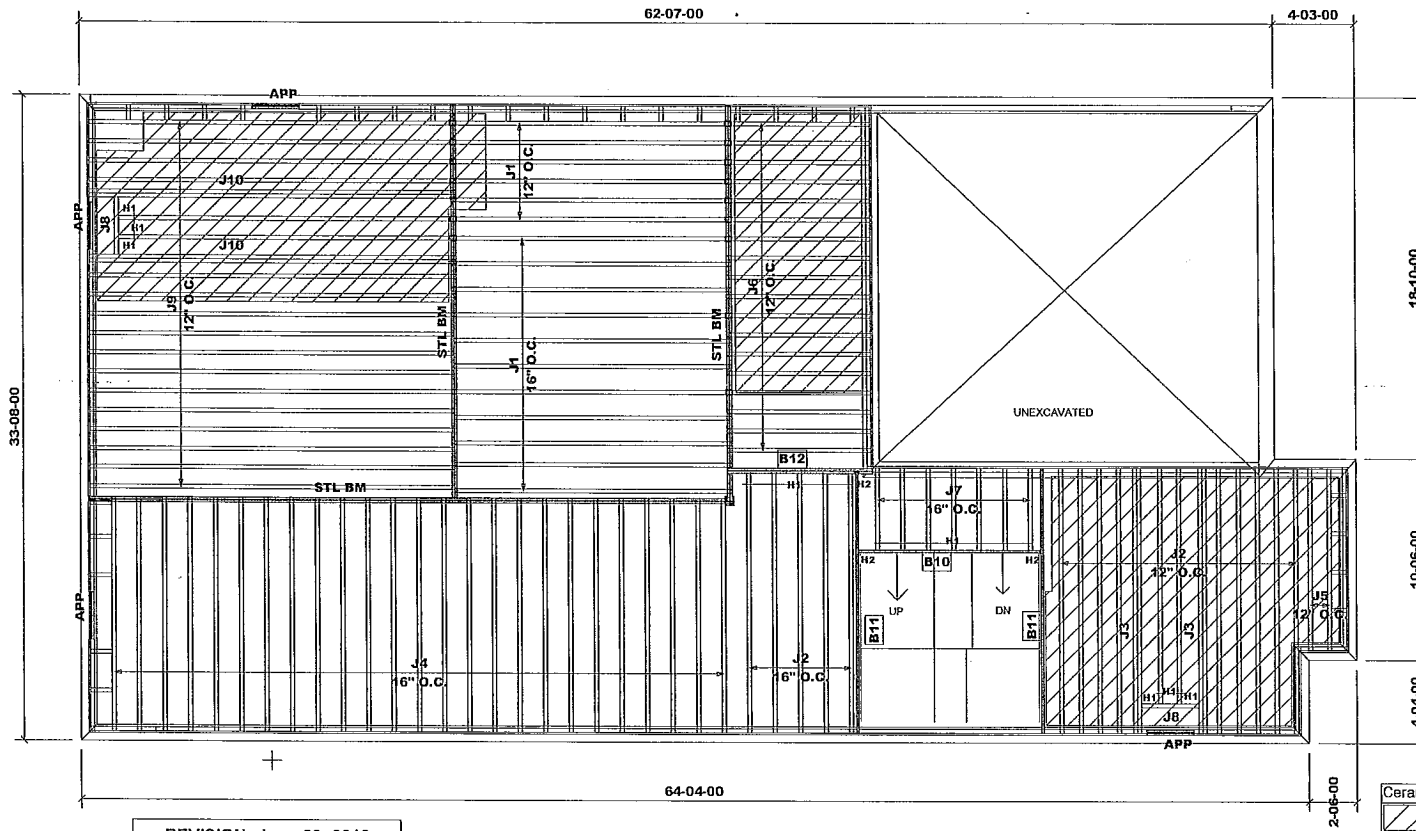
Project: Pine Valley

Date: November 12, 2017

Sheet: 1 of 12

Maple, Ontario

Home Lumber



PlotID	Length	Products		
		Product	Plies	Net Qty
J1	15-00-00	11 7/8" NI-20	1	17
J2	14-00-00	11 7/8" NI-20	1	16
J3	14-00-00	11 7/8" NI-20	2	4
J4	13-00-00	11 7/8" NI-20	1	25
J5	10-00-00	11 7/8" NI-20	1	2
J6	8-00-00	11 7/8" NI-20	1	18
J7	5-00-00	11 7/8" NI-20	1	7
J8	3-00-00	11 7/8" NI-20	1	2
J9	20-00-00	11 7/8" NI-40x	1	18
J10	20-00-00	11 7/8" NI-40x	2	4
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)

NOTE:

TM -----TOP MOUNT HANGERS
FM -----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.8

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.A

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING

TOTAL LENGTH: 37'

JT/PL: 45147/98839

Builder: Gold Park

Location: Vaughan

Designer: NL

Alpa Roof Trusses Inc.

Salesperson: Derek

LI: 299727(290672)

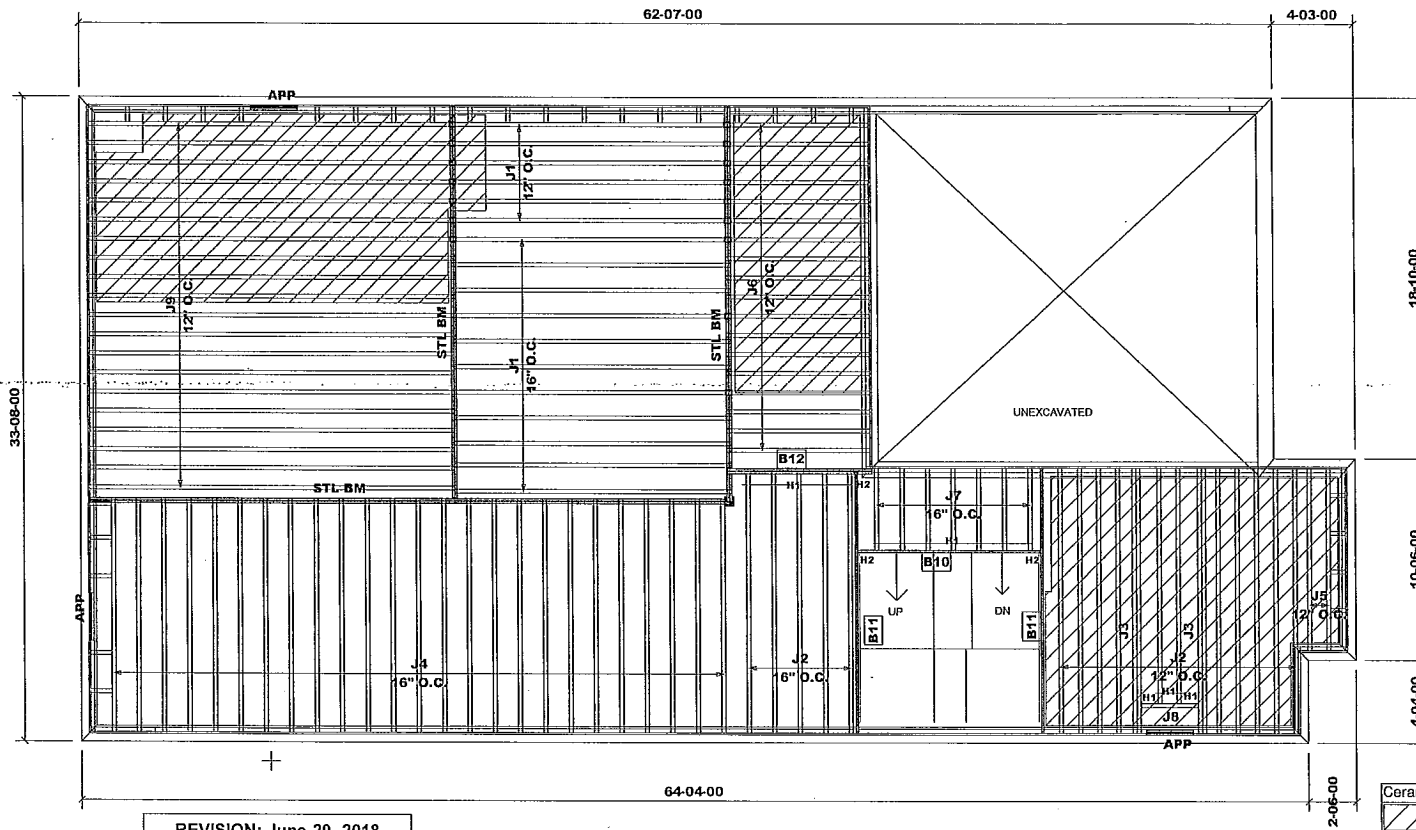
Project: Pine Valley

Date: November 12, 2017

Sheet: 2 of 12

Maple, Ontario

Home Lumber



Products				
PlotID	Length	Product	Plies	Net Qty
J1	15-00-00	11 7/8" NI-20	1	17
J2	14-00-00	11 7/8" NI-20	1	16
J3	14-00-00	11 7/8" NI-20	2	4
J4	13-00-00	11 7/8" NI-20	1	25
J5	10-00-00	11 7/8" NI-20	1	2
J6	8-00-00	11 7/8" NI-20	1	18
J7	5-00-00	11 7/8" NI-20	1	7
J8	3-00-00	11 7/8" NI-20	1	1
J9	20-00-00	11 7/8" NI-40x	1	20
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE

H1.....LT251188 (TM)
H2.....HUS1.81/10(FM)

NOTE:

TM.....TOP MOUNT HANGERS
FM.....FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED
APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.A
W/ OPT. LOGGIA

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING

TOTAL LENGTH: 37"

JT/PL: 45147/98839
LI: 299727(290672)

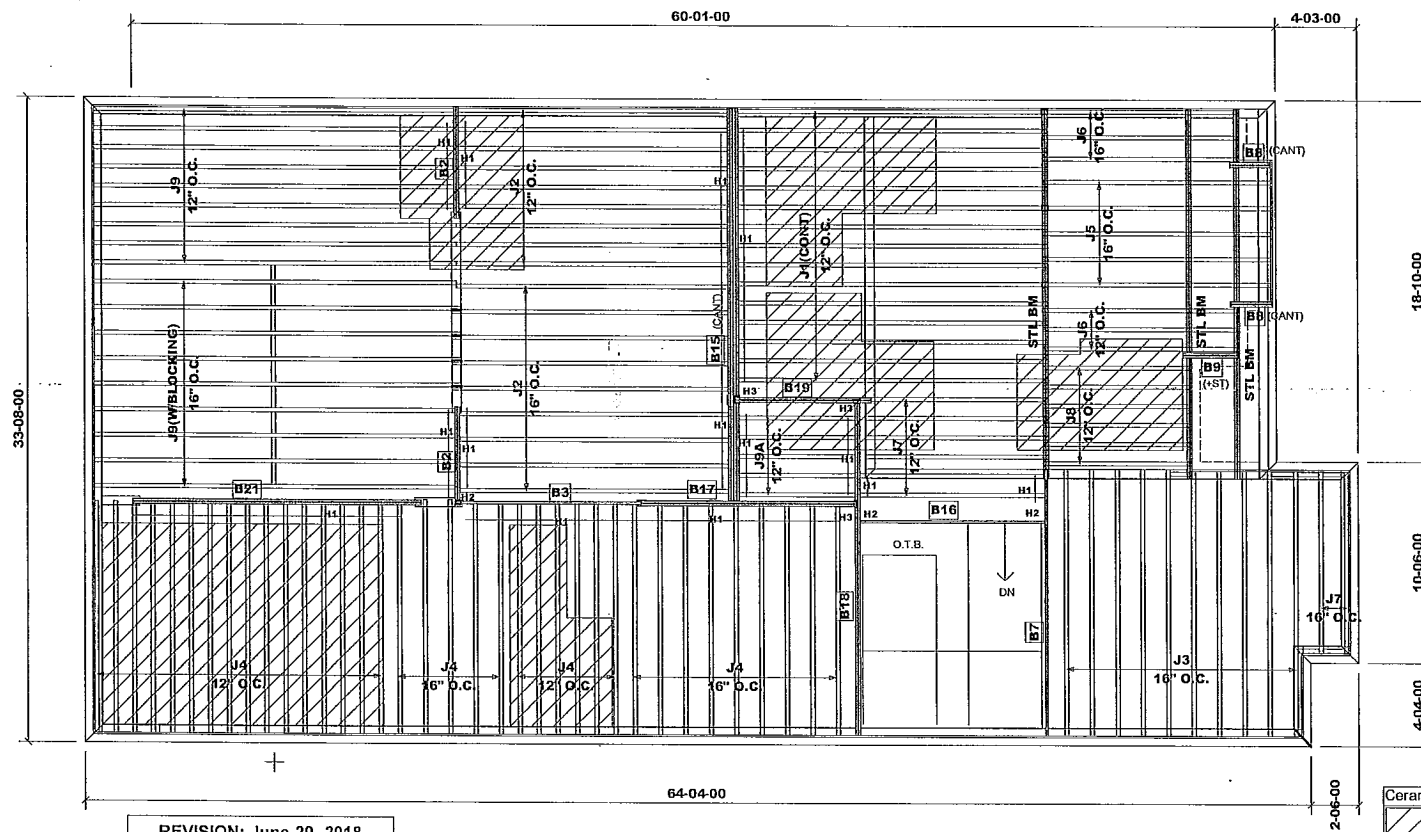
Builder: Gold Park
Project: Pine Valley

Location: Vaughan
Date: December 18, 2017

Designer: NL
Sheet: 2a of 12

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Derek
Home Lumber



REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.A
+ OPT. LOGGIA(W/OPT. 5 BEDRM)

Second Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 34'

Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	11 7/8" NI-20	1	15
J2	15-00-00	11 7/8" NI-20	1	18
J3	14-00-00	11 7/8" NI-20	1	10
J4	13-00-00	11 7/8" NI-20	1	36
J5	12-00-00	11 7/8" NI-20	1	5
J6	11-00-00	11 7/8" NI-20	1	6
J7	10-00-00	11 7/8" NI-20	1	8
J8	8-00-00	11 7/8" NI-20	1	6
J9A	7-00-00	11 7/8" NI-20	1	5
J9	20-00-00	11 7/8" NI-40x	1	18
B15	21-00-00	VERSALAM-12 2.0E	4	4
B18	18-00-00	VERSALAM-12 2.0E	2	2
B21	16-00-00	VERSALAM-12 2.0E	2	2
B7	14-00-00	VERSALAM-12 2.0E	1	1
B17	12-00-00	VERSALAM-12 2.0E	2	2
B16	10-00-00	VERSALAM-12 2.0E	1	1
B3	10-00-00	VERSALAM-12 2.0E	1	1
B19	8-00-00	VERSALAM-12 2.0E	2	2
B2	6-00-00	VERSALAM-12 2.0E	2	4
B8	3-00-00	VERSALAM-12 2.0E	2	4
B9	3-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)
H3-----HGUS410 (FM)

NOTE:

TM-----TOP MOUNT HANGERS
FM-----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED
APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

Provide I-Joist Blocking between cantilevered joists (along bearing) and rimboard closure at ends.

Provide I-Joist Blocking between continuous joists (along bearing)

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

JT/PL: 45147/98839

Builder: Gold Park

Location: Vaughan

Designer: NL

Alpa Roof Trusses Inc.

Salesperson: Derek

LI: 299727(290672)

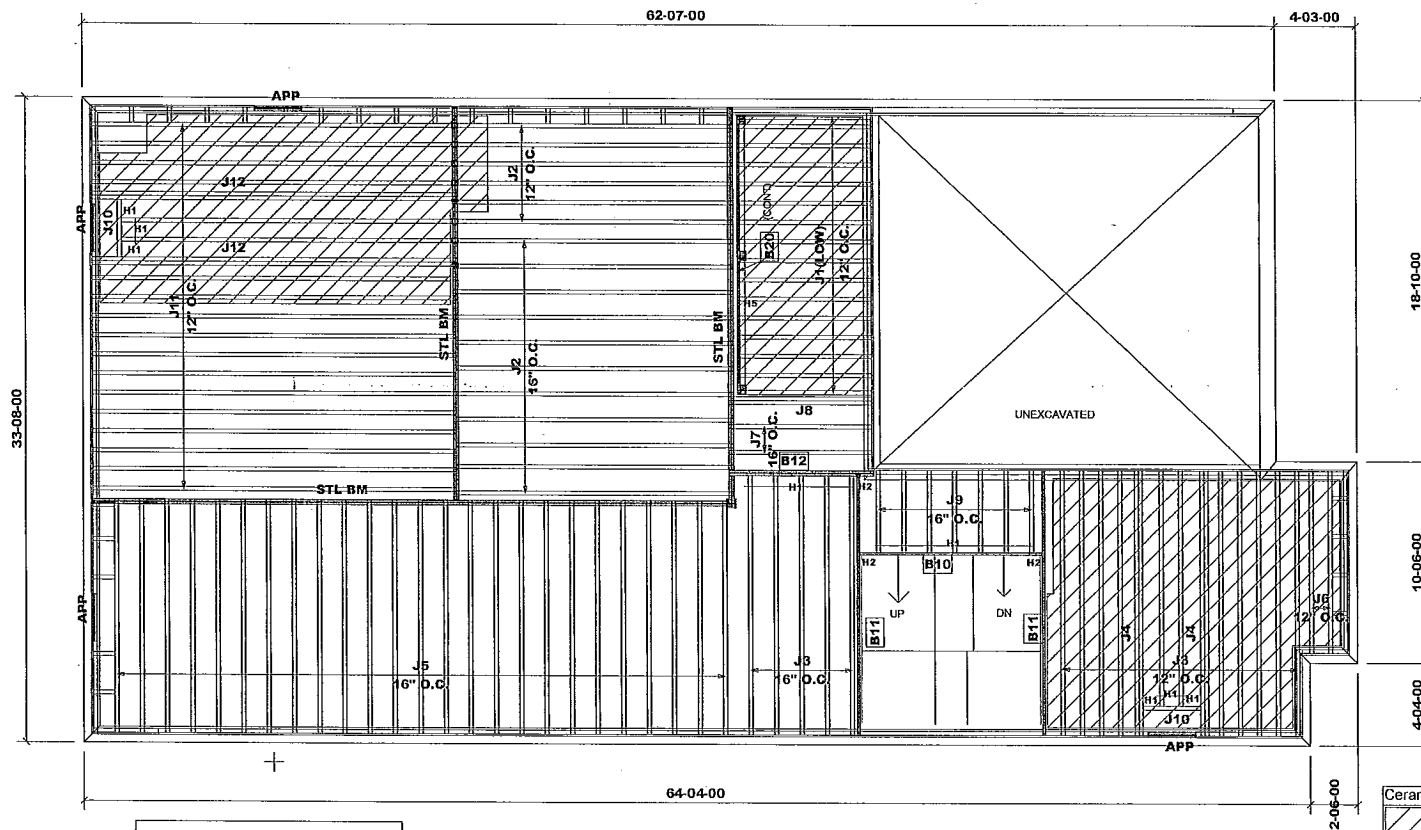
Project: Pine Valley

Date: November 12, 2017

Sheet: 3 of 12

Maple, Ontario

Home Lumber



Products				
PlotID	Length	Product	Piles	Net Qty
J1	8-00-00	9 1/2" NI-20	1	16
J2	15-00-00	11 7/8" NI-20	1	17
J3	14-00-00	11 7/8" NI-20	1	16
J4	14-00-00	11 7/8" NI-20	2	4
J5	13-00-00	11 7/8" NI-20	1	25
J6	10-00-00	11 7/8" NI-20	1	2
J7	8-00-00	11 7/8" NI-20	1	2
J8	8-00-00	11 7/8" NI-20	2	2
J9	5-00-00	11 7/8" NI-20	1	7
J10	3-00-00	11 7/8" NI-20	1	2
J11	20-00-00	11 7/8" NI-40x	1	18
J12	20-00-00	11 7/8" NI-40x	2	4
B20	15-00-00	VERSALAM-10 2.0E	1	1
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE	
H1	LT251188 (TM)
H2	HUS1.81/10(FM)
H5	LT259(TM)

NOTE:
 TM -----TOP MOUNT HANGERS
 FM -----FACE MOUNT HANGERS

RIMBOARD	
1-	1/8" X 11 7/8" O.S.B.
1-	1/8" X 9 1/2" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED	
APP	AS PER PLAN
BBO	BEAM BY OTHERS



Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

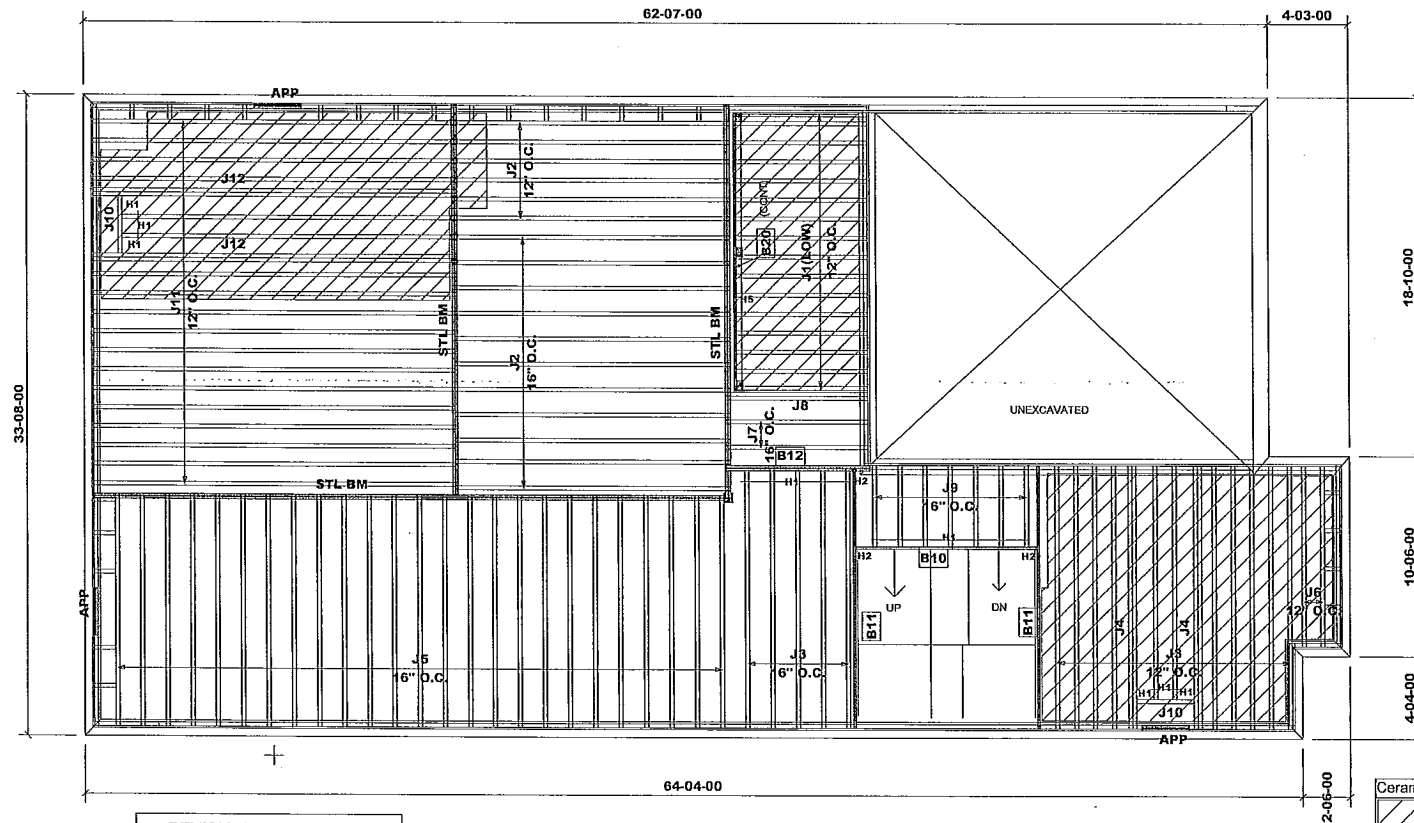
MODEL: UNIT 4203 - EL.A
(W/SUNKEN)

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 37'

JT/PL: 45147/98839	Builder: Gold Park	Location: Vaughan	Designer: NL	Alpa Roof Trusses Inc.	Salesperson: Derek
LI: 299727(290672)	Project: Pine Valley	Date: November 12, 2017	Sheet: 4 of 12	Maple, Ontario	Home Lumber

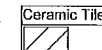


Products				
PlotID	Length	Product	Piles	Net Qty
J1	8-00-00	9 1/2" NI-20	1	16
J2	15-00-00	11 7/8" NI-20	1	17
J3	14-00-00	11 7/8" NI-20	1	16
J4	14-00-00	11 7/8" NI-20	2	4
J5	13-00-00	11 7/8" NI-20	1	25
J6	10-00-00	11 7/8" NI-20	1	2
J7	8-00-00	11 7/8" NI-20	1	2
J8	8-00-00	11 7/8" NI-20	2	2
J9	5-00-00	11 7/8" NI-20	1	7
J10	3-00-00	11 7/8" NI-20	1	2
J11	20-00-00	11 7/8" NI-40x	1	18
J12	20-00-00	11 7/8" NI-40x	2	4
B20	15-00-00	VERSALAM-10 2.0E	1	1
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE	
H1	LT251188 (TM)
H2	HUS1.81/10(FM)
H5	LT259(TM)

NOTE:
 TM ----- TOP MOUNT HANGERS
 FM ----- FACE MOUNT HANGERS

RIMBOARD	
1-	1/8" X 11 7/8" O.S.B.
1-	1/8" X 9 1/2" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED	
APP	AS PER PLAN
BBO	BEAM BY OTHERS



Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

MODEL: UNIT 4203 - ELA
- OPT. LOGGIA(W/SUNKEN)

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 37"

JT/PL: 45147/98839
LI: 299727(290672)

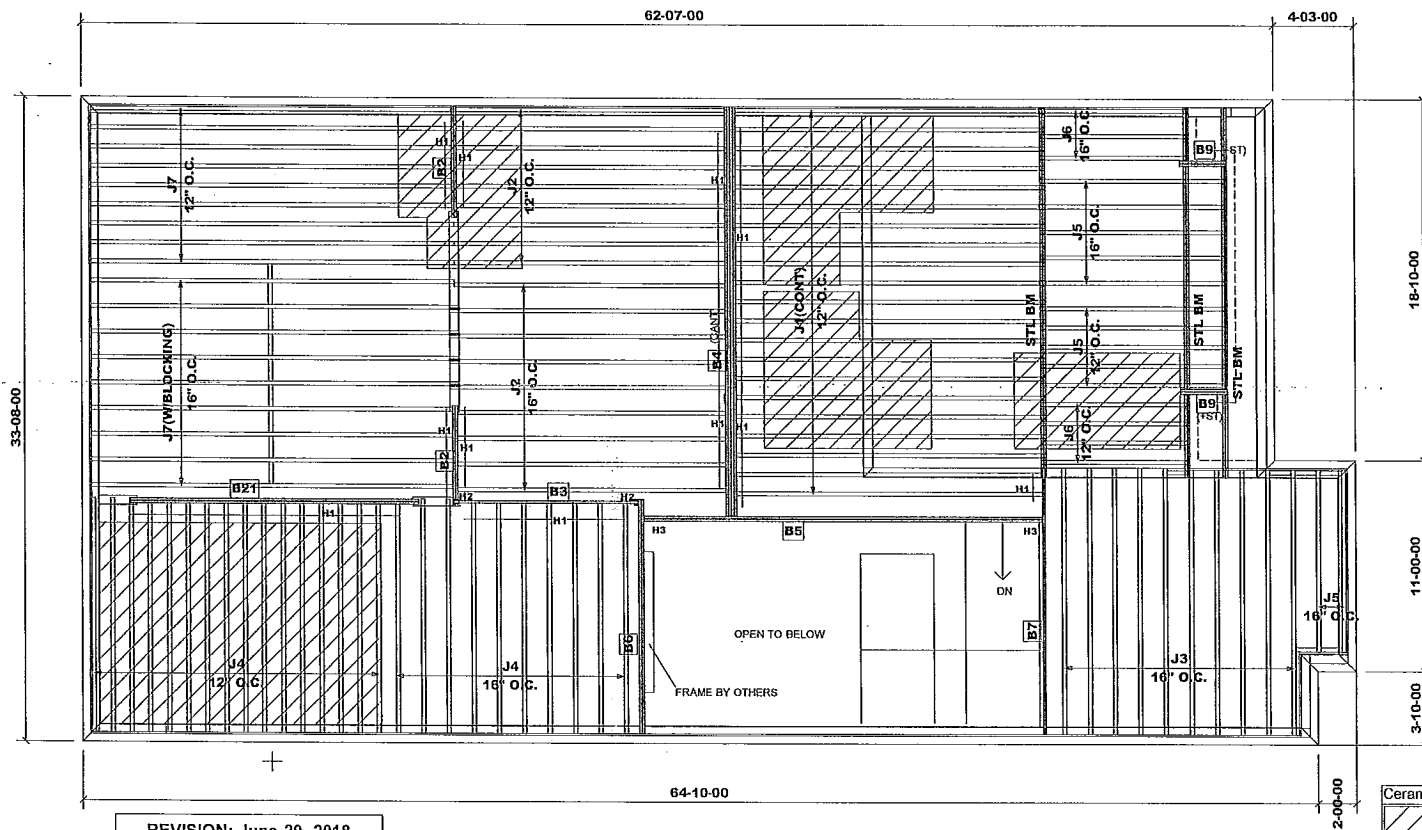
Builder: Gold Park
Project: Pine Valley

Location: Vaughan
Date: December 12, 2017

Designer: NL
Sheet: 4a of 12

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Derek
Home Lumber



REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.B
+ OPT. LOGGIA

Second Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING

TOTAL LENGTH: 19'

Products				
PlotID	Length	Product	Piles	Net Qty
J1	17-00-00	11 7/8" NI-20	1	21
J2	15-00-00	11 7/8" NI-20	1	18
J3	14-00-00	11 7/8" NI-20	1	10
J4	13-00-00	11 7/8" NI-20	1	26
J5	10-00-00	11 7/8" NI-20	1	12
J6	8-00-00	11 7/8" NI-20	1	7
J7	20-00-00	11 7/8" NI-40x	1	18
B4	22-00-00	VERSALAM-12 2.0E	4	4
B5	21-00-00	VERSALAM-12 2.0E	2	2
B21	16-00-00	VERSALAM-12 2.0E	2	2
B7	14-00-00	VERSALAM-12 2.0E	1	1
B6	13-00-00	VERSALAM-12 2.0E	2	2
B3	10-00-00	VERSALAM-12 2.0E	1	1
B2	6-00-00	VERSALAM-12 2.0E	2	4
B9	3-00-00	VERSALAM-12 2.0E	2	4

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)
H3-----HGUS410 (FM)

NOTE:

TM-----TOP MOUNT HANGERS
FM-----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

Provide I-Joist Blocking between continuous joists (along bearing)

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

JT/PL: 45147/98839

Builder: Gold Park

Location: Vaughan

Designer: NL

Alpa Roof Trusses Inc.

Salesperson: Derek

LI: 299727(290672)

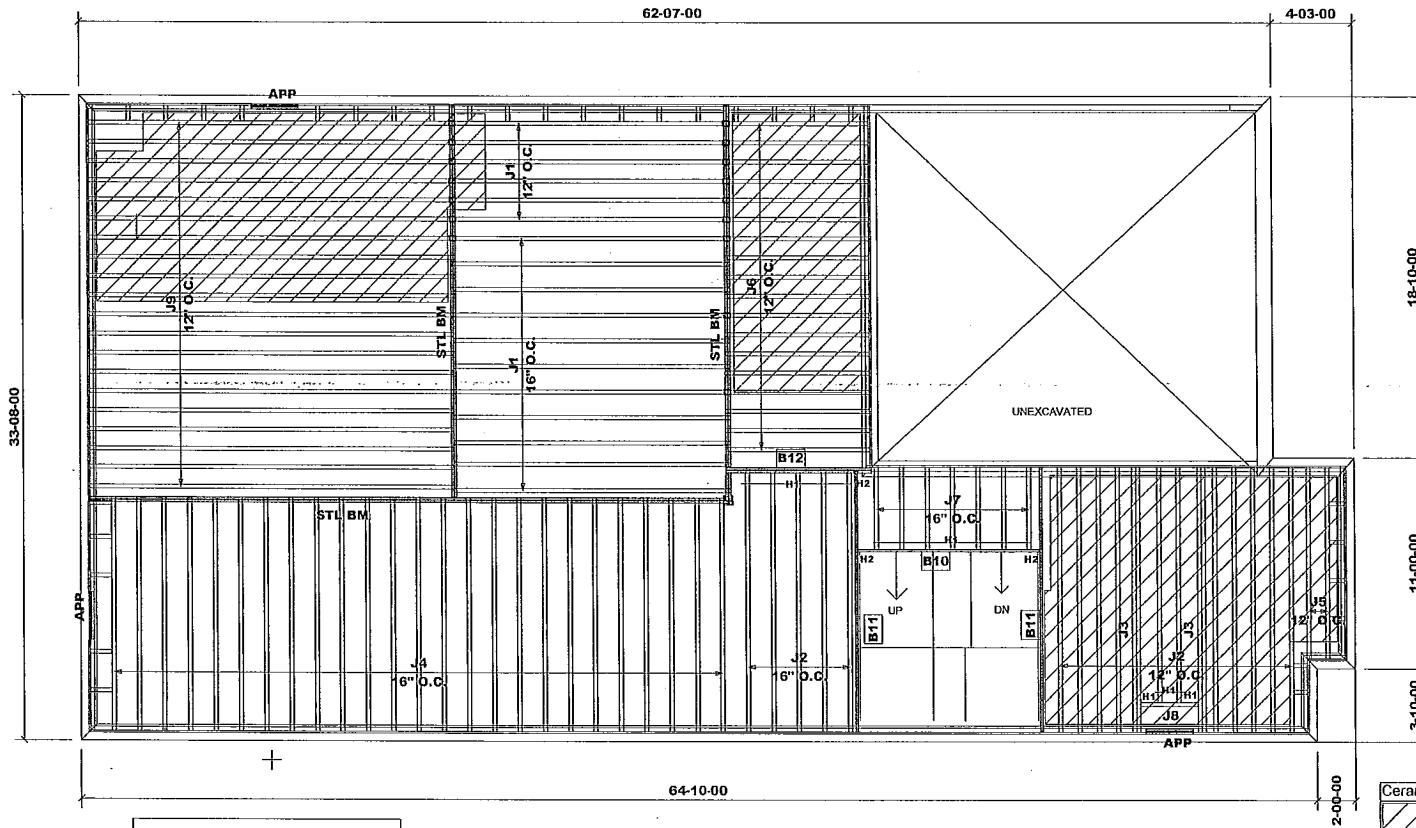
Project: Pine Valley

Date: November 12, 2017

Sheet: 5 of 12

Maple, Ontario

Home Lumber



Products				
PlotID	Length	Product	Plies	Net Qty
J1	15-00-00	11 7/8" NI-20	1	17
J2	14-00-00	11 7/8" NI-20	1	16
J3	14-00-00	11 7/8" NI-20	2	4
J4	13-00-00	11 7/8" NI-20	1	25
J5	10-00-00	11 7/8" NI-20	1	2
J6	8-00-00	11 7/8" NI-20	1	18
J7	5-00-00	11 7/8" NI-20	1	7
J8	3-00-00	11 7/8" NI-20	1	1
J9	20-00-00	11 7/8" NI-40x	1	20
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)

NOTE:

TM-----TOP MOUNT HANGERS
FM-----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.B
- OPT. LOGGIA

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 41'

JT/PL: 45147/98839
LI: 299727(290672)

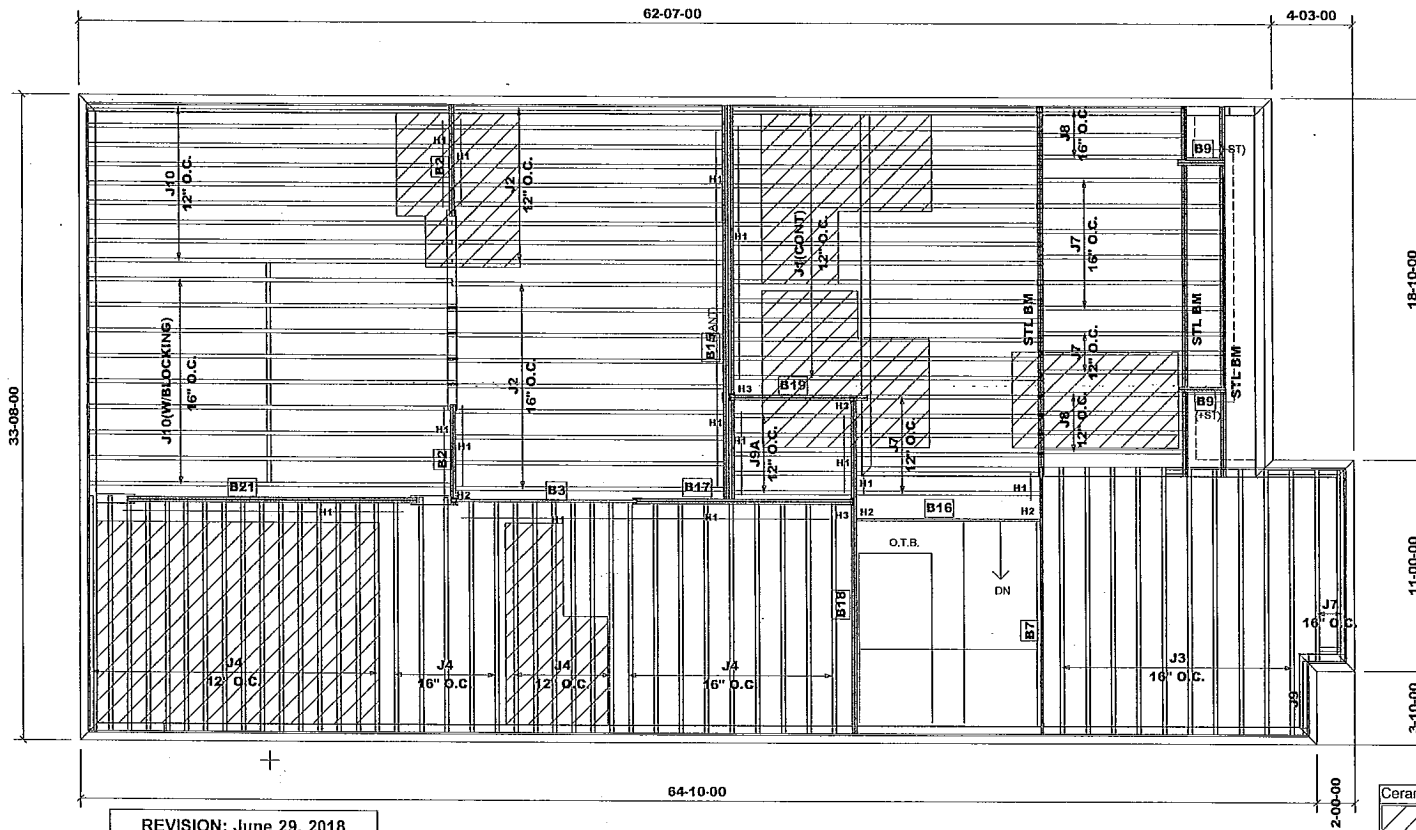
Builder: Gold Park
Project: Pine Valley

Location: Vaughan
Date: December 18, 2017

Designer: NL
Sheet: 6a of 12

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Derek
Home Lumber



REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.B
+ OPT. LOGGIA(W/OPT. 5 BEDRM)

Second Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 27'

Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	11 7/8" NI-20	1	15
J2	15-00-00	11 7/8" NI-20	1	18
J3	14-00-00	11 7/8" NI-20	1	10
J4	13-00-00	11 7/8" NI-20	1	36
J7	10-00-00	11 7/8" NI-20	1	17
J8	8-00-00	11 7/8" NI-20	1	7
J9A	7-00-00	11 7/8" NI-20	1	5
J9	4-00-00	11 7/8" NI-20	1	1
J10	20-00-00	11 7/8" NI-40x	1	18
B15	21-00-00	VERSALAM-12 2.0E	4	4
B18	18-00-00	VERSALAM-12 2.0E	2	2
B21	16-00-00	VERSALAM-12 2.0E	2	2
B7	14-00-00	VERSALAM-12 2.0E	1	1
B17	12-00-00	VERSALAM-12 2.0E	2	2
B16	10-00-00	VERSALAM-12 2.0E	1	1
B3	10-00-00	VERSALAM-12 2.0E	1	1
B19	8-00-00	VERSALAM-12 2.0E	2	2
B2	6-00-00	VERSALAM-12 2.0E	2	4
B9	3-00-00	VERSALAM-12 2.0E	2	4

HANGER SCHEDULE

H1 ----- LT251188 (TM)
H2 ----- HUS1.81/10(FM)
H3 ----- HGUS410 (FM)

NOTE:

TM ----- TOP MOUNT HANGERS
FM ----- FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

Provide I-Joist Blocking between continuous joists (along bearing)

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

JT/PL: 45147/98839

Builder: Gold Park

Location: Vaughan

Designer: NL

Alpa Roof Trusses Inc.

Salesperson: Derek

LI: 299727(290672)

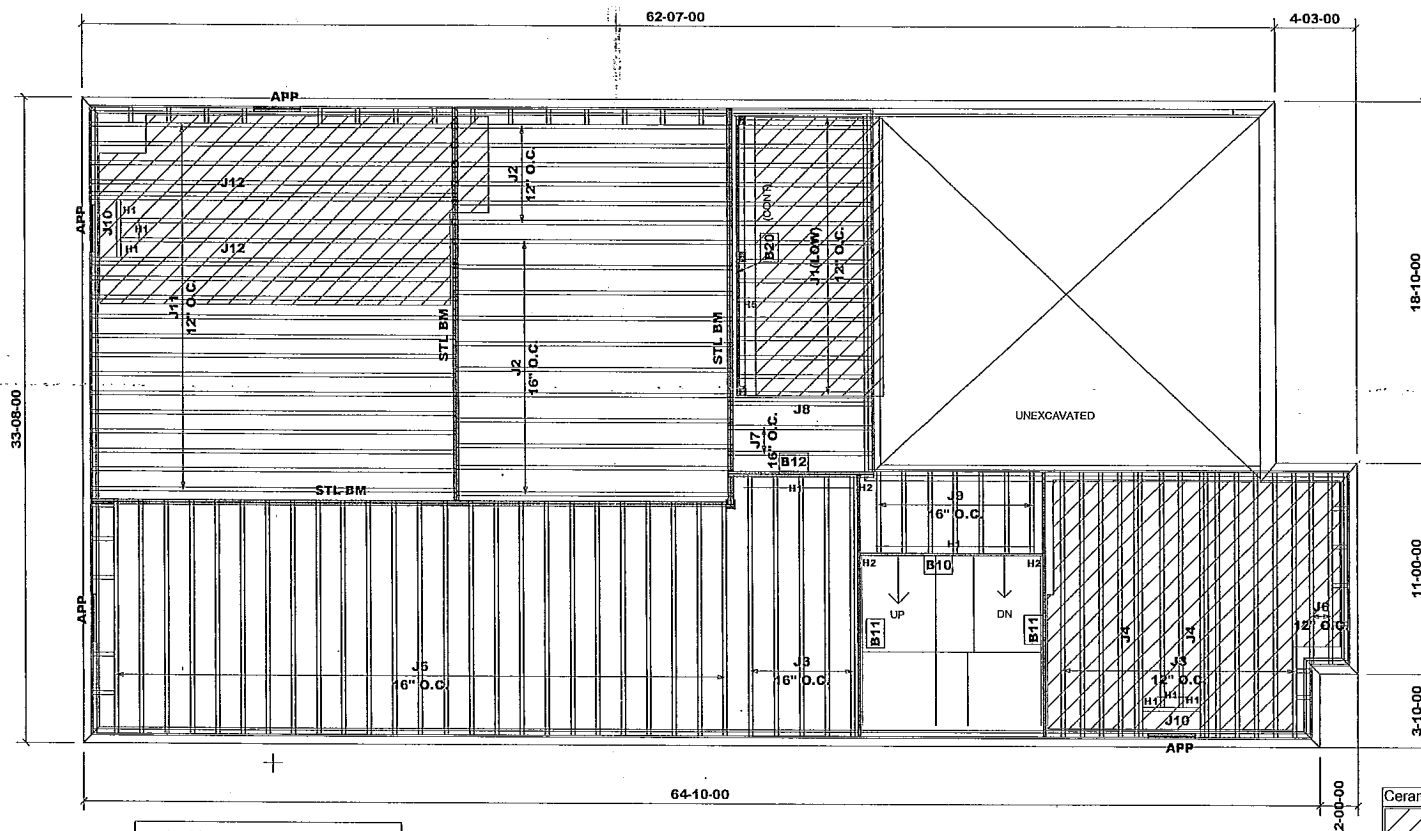
Project: Pine Valley

Date: November 12, 2017

Sheet: 7 of 12

Maple, Ontario

Home Lumber



Products				
PlotID	Length	Product	Plies	Net Qty
J1	8-00-00	9 1/2" NI-20	1	16
J2	15-00-00	11 7/8" NI-20	1	17
J3	14-00-00	11 7/8" NI-20	1	16
J4	14-00-00	11 7/8" NI-20	2	4
J5	13-00-00	11 7/8" NI-20	1	25
J6	10-00-00	11 7/8" NI-20	1	2
J7	8-00-00	11 7/8" NI-20	1	2
J8	8-00-00	11 7/8" NI-20	2	2
J9	5-00-00	11 7/8" NI-20	1	7
J10	3-00-00	11 7/8" NI-20	1	2
J11	20-00-00	11 7/8" NI-40x	1	18
J12	20-00-00	11 7/8" NI-40x	2	4
B20	15-00-00	VERSALAM-10 2.0E	1	1
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE	
H1	LT251188 (TM)
H2	HUS1.81/10(FM)
H5	LT259(TM)

NOTE:
 TM ——— TOP MOUNT HANGERS
 FM ——— FACE MOUNT HANGERS

RIMBOARD	
1-	1/8" X 11 7/8" O.S.B.
1-	1/8" X 9 1/2" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED	
APP	AS PER PLAN
BBO	BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.B
(W/SUNKEN)

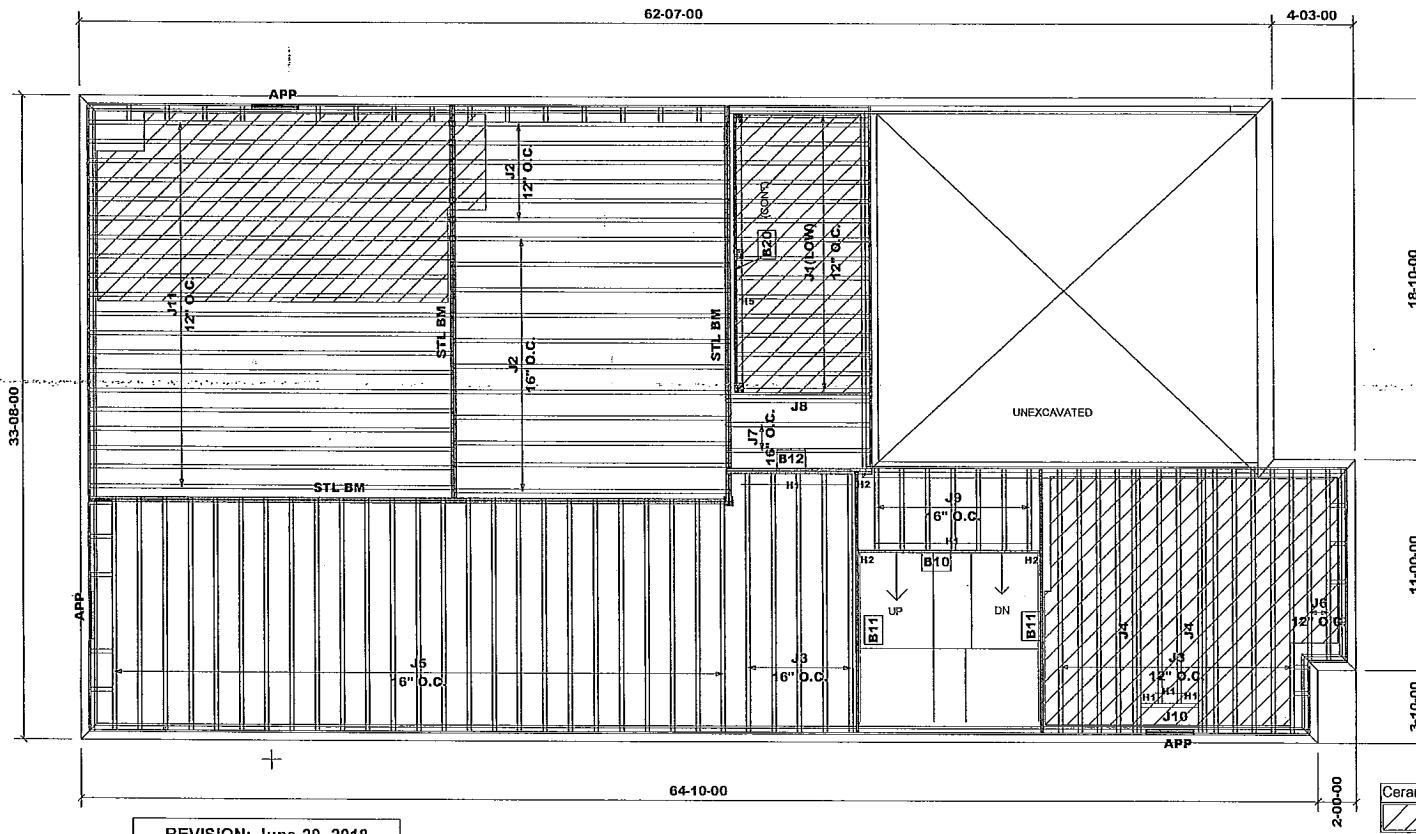
First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING

TOTAL LENGTH: 41'

JT/PL: 45147/98839	Builder: Gold Park	Location: Vaughan	Designer: NL	Alpa Roof Trusses Inc.	Salesperson: Derek
LI: 299727(290672)	Project: Pine Valley	Date: November 12, 2017	Sheet: 8 of 12	Maple, Ontario	Home Lumber



Products				
PlotID	Length	Product	Plies	Net Qty
J1	8-00-00	9 1/2" NI-20	1	16
J2	15-00-00	11 7/8" NI-20	1	17
J3	14-00-00	11 7/8" NI-20	1	16
J4	14-00-00	11 7/8" NI-20	2	4
J5	13-00-00	11 7/8" NI-20	1	25
J6	10-00-00	11 7/8" NI-20	1	2
J7	8-00-00	11 7/8" NI-20	1	2
J8	8-00-00	11 7/8" NI-20	2	2
J9	5-00-00	11 7/8" NI-20	1	7
J10	3-00-00	11 7/8" NI-20	1	1
J11	20-00-00	11 7/8" NI-40x	1	20
B20	15-00-00	VERSALAM-10 2.0E	1	1
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE

H1	LT251188 (TM)
H2	HUS1.81/10(FM)
H5	LT259(TM)

NOTE:
 TM ----- TOP MOUNT HANGERS
 FM ----- FACE MOUNT HANGERS

RIMBOARD
 1- 1/8" X 11 7/8" O.S.B.
 1- 1/8" X 9 1/2" O.S.B.

SUBFLOOR - 3/4" NAILED & GLUED

APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.8

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

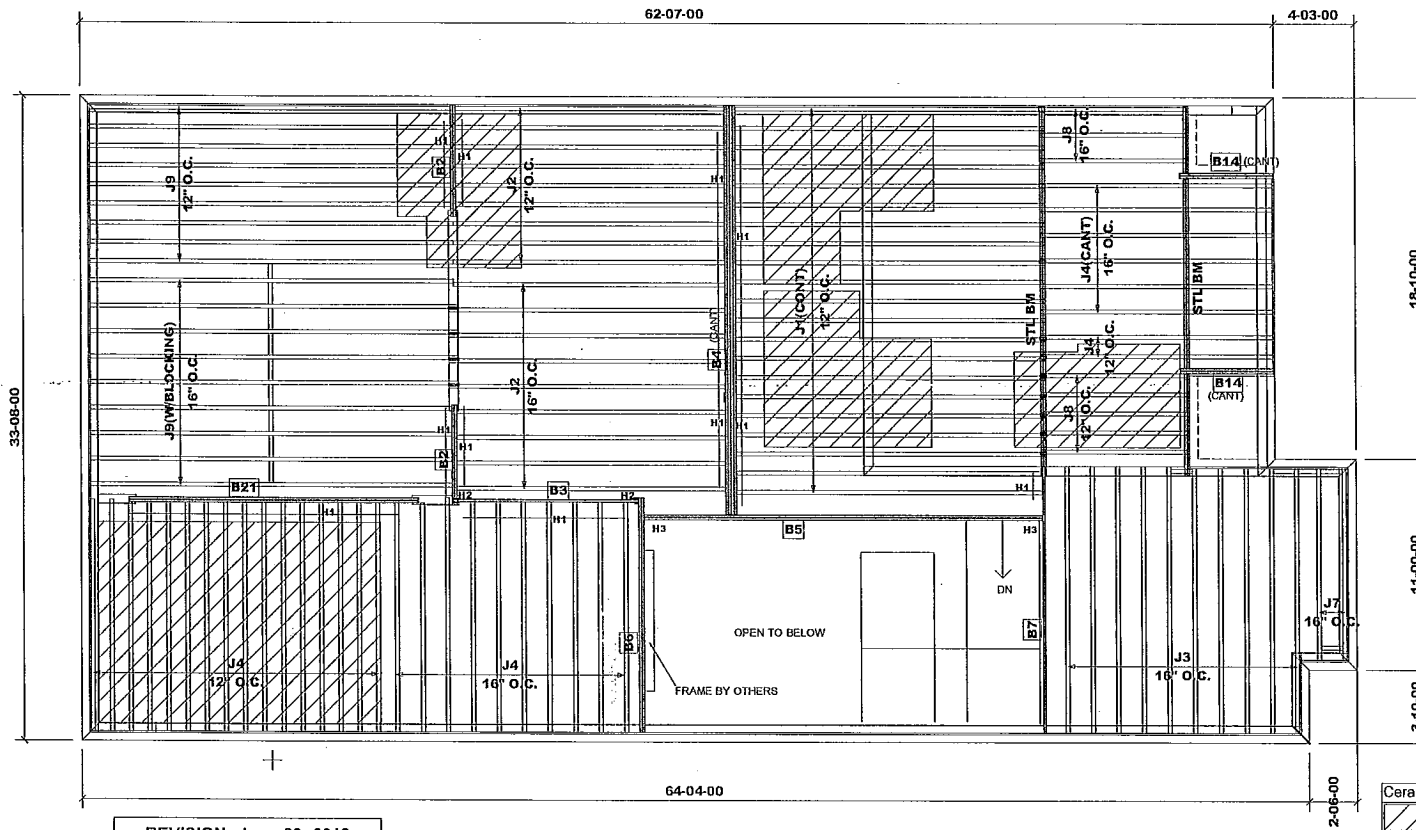
MODEL: UNIT 4203 - EL.B
 - OPT. LOGGIA(W/SUNKEN)

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
 TOTAL LENGTH: 41'

JT/PL: 45147/98839	Builder: Gold Park	Location: Vaughan	Designer: NL	Alpa Roof Trusses Inc.	Salesperson: Derek
Ll: 299727(290672)	Project: Pine Valley	Date: December 18, 2017	Sheet: 8a of 12	Maple, Ontario	Home Lumber



PlotID	Length	Product	Piles	Net Qty
J1	17-00-00	11 7/8" NI-20	1	21
J2	15-00-00	11 7/8" NI-20	1	18
J3	14-00-00	11 7/8" NI-20	1	10
J4	13-00-00	11 7/8" NI-20	1	34
J7	10-00-00	11 7/8" NI-20	1	2
J8	8-00-00	11 7/8" NI-20	1	8
J9	20-00-00	11 7/8" NI-40x	1	18
B4	22-00-00	VERSALAM-12 2.0E	4	4
B5	21-00-00	VERSALAM-12 2.0E	2	2
B21	16-00-00	VERSALAM-12 2.0E	2	2
B7	14-00-00	VERSALAM-12 2.0E	1	1
B6	13-00-00	VERSALAM-12 2.0E	2	2
B3	10-00-00	VERSALAM-12 2.0E	1	1
B2	6-00-00	VERSALAM-12 2.0E	2	4
B14	5-00-00	VERSALAM-12 2.0E	2	4

HANGER SCHEDULE

H1-----LT251188 (TM)
H2-----HUS1.81/10(FM)
H3-----HGUS410 (FM)

NOTE:

TM-----TOP MOUNT HANGERS
FM-----FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED
APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

Provide I-Joist Blocking between cantilevered joists (along bearing) and rimboard closure at ends.

Provide I-Joist Blocking between continuous joists (along bearing)

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

JT/PL: 45147/98839

Builder: Gold Park

Location: Vaughan

Designer: NL

Alpa Roof Trusses Inc.

Salesperson: Derek

LI: 299727(290672)

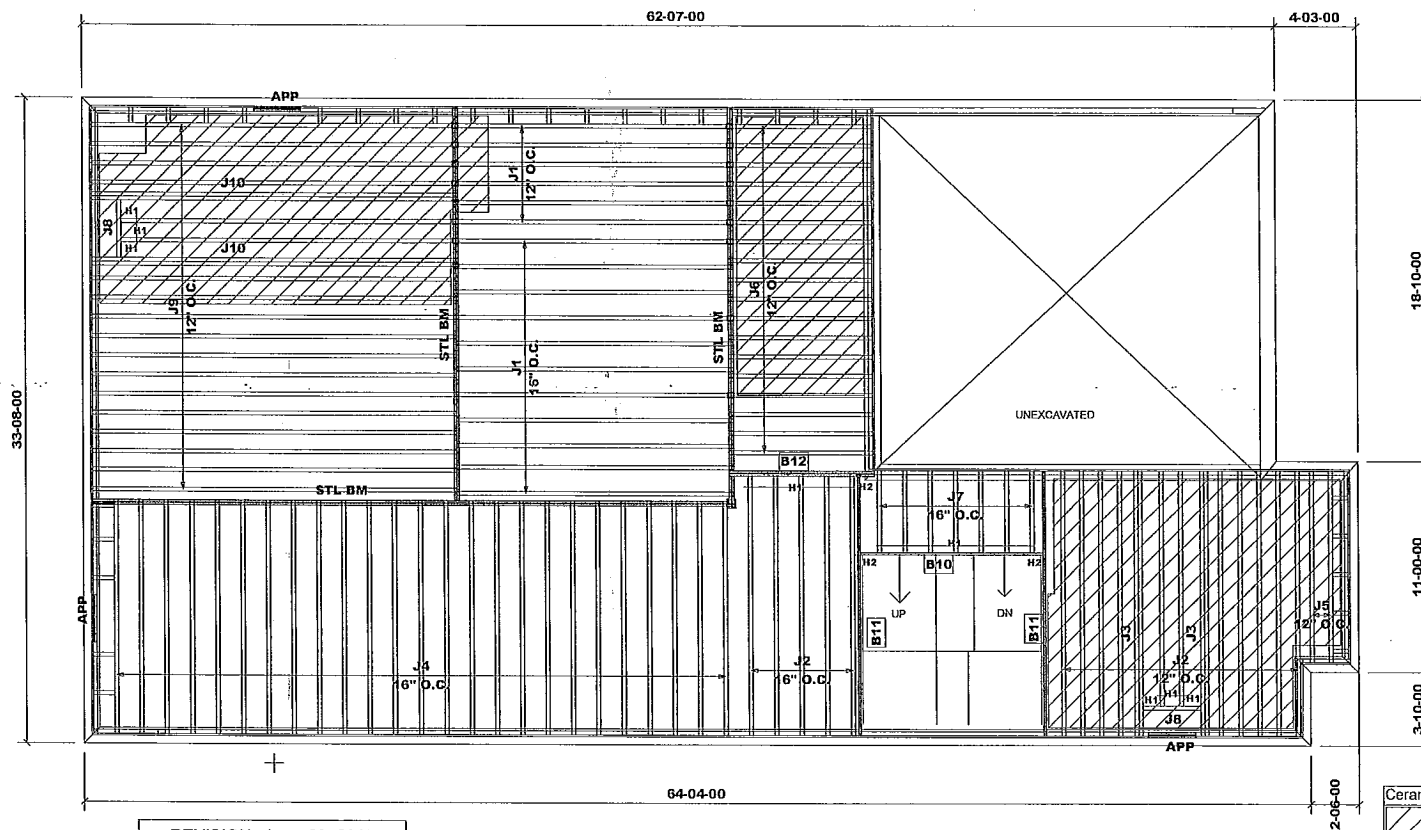
Project: Pine Valley

Date: November 12, 2017

Sheet: 9 of 12

Maple, Ontario

Home Lumber



Products				
PlotID	Length	Product	Plies	Net Qty
J1	15-00-00	11 7/8" NI-20	1	17
J2	14-00-00	11 7/8" NI-20	1	16
J3	14-00-00	11 7/8" NI-20	2	4
J4	13-00-00	11 7/8" NI-20	1	25
J5	10-00-00	11 7/8" NI-20	1	2
J6	8-00-00	11 7/8" NI-20	1	18
J7	5-00-00	11 7/8" NI-20	1	7
J8	3-00-00	11 7/8" NI-20	1	2
J9	20-00-00	11 7/8" NI-40x	1	18
J10	20-00-00	11 7/8" NI-40x	2	4
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE	
H1	LT251188 (TM)
H2	HUS1.81/10(FM)
NOTE:	
TM	TOP MOUNT HANGERS
FM	FACE MOUNT HANGERS

RIMBOARD	
1	1/8" X 11 7/8" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED	
APP	AS PER PLAN
BBO	BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

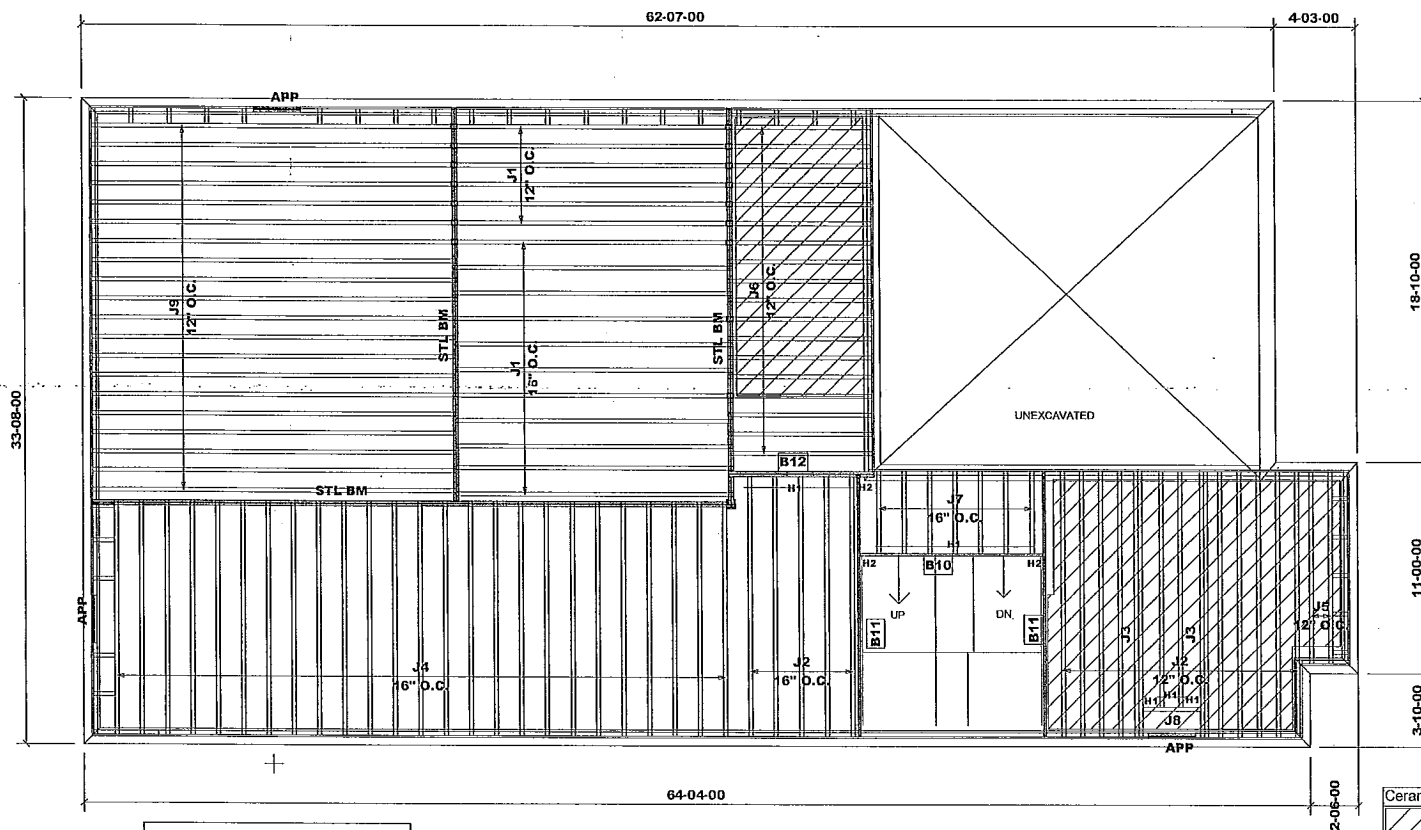
MODEL: UNIT 4203 - E.L.C

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING

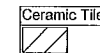
TOTAL LENGTH: 41'



Products				
PlotID	Length	Product	Plies	Net Qty
J1	15-00-00	11 7/8" NI-20	1	17
J2	14-00-00	11 7/8" NI-20	1	16
J3	14-00-00	11 7/8" NI-20	2	4
J4	13-00-00	11 7/8" NI-20	1	25
J5	10-00-00	11 7/8" NI-20	1	2
J6	8-00-00	11 7/8" NI-20	1	18
J7	5-00-00	11 7/8" NI-20	1	7
J8	3-00-00	11 7/8" NI-20	1	1
J9	20-00-00	11 7/8" NI-40x	1	20
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE	
H1	LT251188 (TM)
H2	HUS1.81/10(FM)
NOTE:	
TM	TOP MOUNT HANGERS
FM	FACE MOUNT HANGERS

RIMBOARD	
1	1/8" X 11 7/8" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED	
APP	AS PER PLAN
BBO	BEAM BY OTHERS



Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.C
- OPT. LOGGIA

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 41"

JT/PL: 45147/98839
LI: 299727(290672)

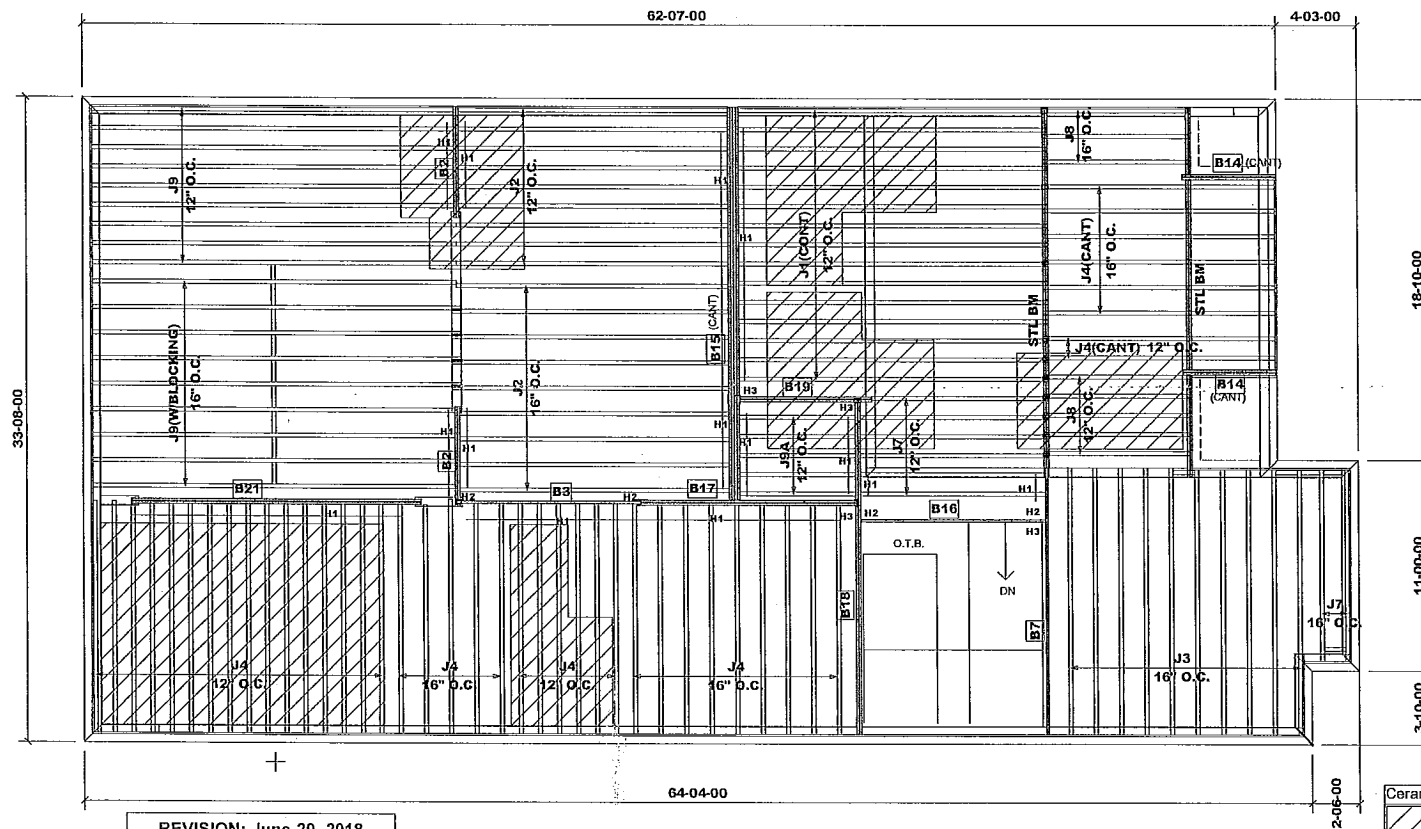
Builder: Gold Park
Project: Pine Valley

Location: Vaughan
Date: December 18, 2017

Designer: NL
Sheet: 10a of 12

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Derek
Home Lumber



REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.C
+ OPT. LOGGIA(W/OPT. 5 BEDRM)

Second Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 38'

Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	11 7/8" NI-20	1	15
J2	15-00-00	11 7/8" NI-20	1	18
J3	14-00-00	11 7/8" NI-20	1	10
J4	13-00-00	11 7/8" NI-20	1	44
J7	10-00-00	11 7/8" NI-20	1	8
J8	8-00-00	11 7/8" NI-20	1	8
J9A	7-00-00	11 7/8" NI-20	1	5
J9	20-00-00	11 7/8" NI-40x	1	18
B15	21-00-00	VERSALAM-12 2.0E	4	4
B18	18-00-00	VERSALAM-12 2.0E	2	2
B21	16-00-00	VERSALAM-12 2.0E	2	2
B7	14-00-00	VERSALAM-12 2.0E	1	1
B17	12-00-00	VERSALAM-12 2.0E	2	2
B16	10-00-00	VERSALAM-12 2.0E	1	1
B3	10-00-00	VERSALAM-12 2.0E	1	1
B19	8-00-00	VERSALAM-12 2.0E	2	2
B2	6-00-00	VERSALAM-12 2.0E	2	4
B14	5-00-00	VERSALAM-12 2.0E	2	4

HANGER SCHEDULE

H1 — LT251188 (TM)
H2 — HUS1.81/10(FM)
H3 — HGUS410 (FM)

NOTE:
TM — TOP MOUNT HANGERS
FM — FACE MOUNT HANGERS

RIMBOARD

1- 1/8" X 11 7/8" O.S.B.,
SUBFLOOR - 3/4" NAILED & GLUED
APP - AS PER PLAN
BBO - BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

Provide I-Joist Blocking between cantilevered joists (along bearing) and rimboard closure at ends.

Provide I-Joist Blocking between continuous joists (along bearing)

1-2X8 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

JT/PL: 45147/98839
LI: 299727(290672)

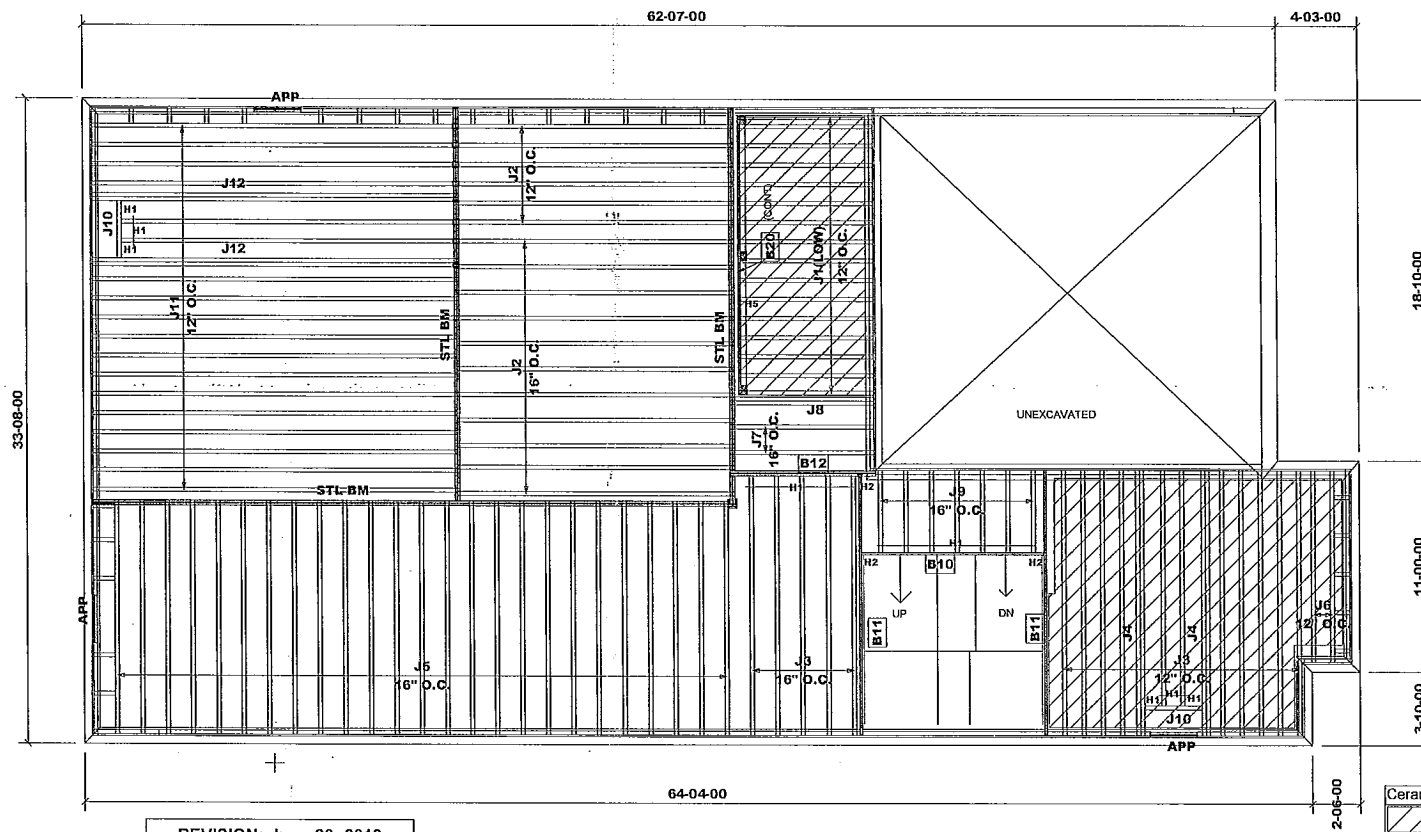
Builder: Gold Park
Project: Pine Valley

Location: Vaughan
Date: November 12, 2017

Designer: NL
Sheet: 11 of 12

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Derek
Home Lumber



Products				
PlotID	Length	Product	Plies	Net Qty
J1	8-00-00	9 1/2" NI-20	1	16
J2	15-00-00	11 7/8" NI-20	1	17
J3	14-00-00	11 7/8" NI-20	1	16
J4	14-00-00	11 7/8" NI-20	2	4
J5	13-00-00	11 7/8" NI-20	1	25
J6	10-00-00	11 7/8" NI-20	1	2
J7	8-00-00	11 7/8" NI-20	1	2
J8	8-00-00	11 7/8" NI-20	2	2
J9	5-00-00	11 7/8" NI-20	1	7
J10	3-00-00	11 7/8" NI-20	1	2
J11	20-00-00	11 7/8" NI-40x	1	18
J12	20-00-00	11 7/8" NI-40x	2	4
B20	15-00-00	VERSALAM-10 2.0E	1	1
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE	
H1	LT251188 (TM)
H2	HUS1.81/10(FM)
H5	LT259(TM)

NOTE:
 TM ----- TOP MOUNT HANGERS
 FM ----- FACE MOUNT HANGERS

RIMBOARD	
1-	1/8" X 11 7/8" O.S.B.
1-	1/8" X 9 1/2" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED	
APP	AS PER PLAN
BBO	BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

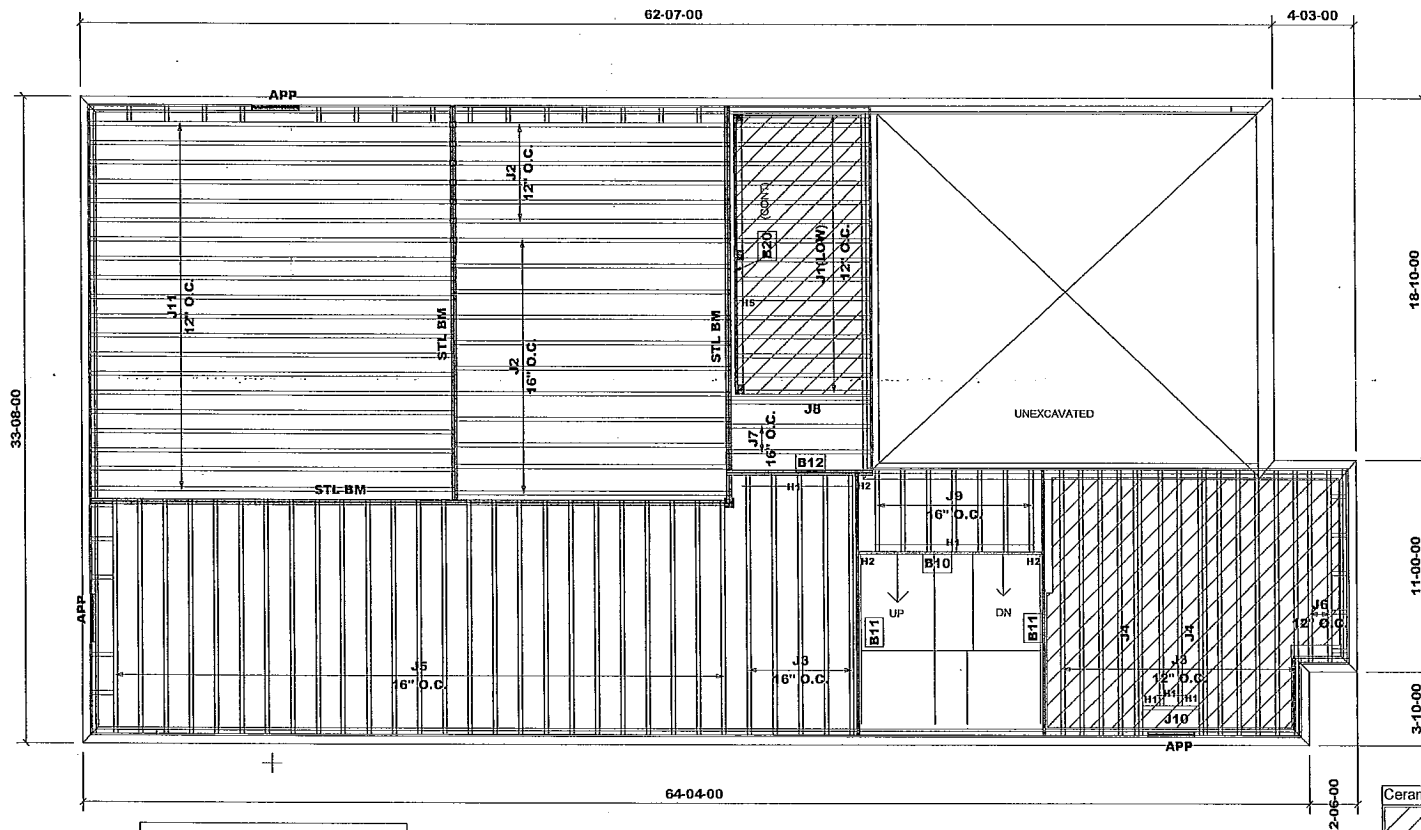
MODEL: UNIT 4203 - EL.C
(W/SUNKEN)

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
TOTAL LENGTH: 41'

JT/PL: 45147/98839	Builder: Gold Park	Location: Vaughan	Designer: NL	Alpa Roof Trusses Inc.	Salesperson: Derek
LI: 299727(290672)	Project: Pine Valley	Date: November 12, 2017	Sheet: 12 of 12	Maple, Ontario	Home Lumber



Products				
PlotID	Length	Product	Plies	Net Qty
J1	8-00-00	9 1/2" NI-20	1	16
J2	15-00-00	11 7/8" NI-20	1	17
J3	14-00-00	11 7/8" NI-20	1	16
J4	14-00-00	11 7/8" NI-20	2	4
J5	13-00-00	11 7/8" NI-20	1	25
J6	10-00-00	11 7/8" NI-20	1	2
J7	8-00-00	11 7/8" NI-20	1	2
J8	8-00-00	11 7/8" NI-20	2	2
J9	5-00-00	11 7/8" NI-20	1	7
J10	3-00-00	11 7/8" NI-20	1	1
J11	20-00-00	11 7/8" NI-40x	1	20
B20	15-00-00	VERSALAM-10 2.0E	1	1
B11	14-00-00	VERSALAM-12 2.0E	1	2
B10	10-00-00	VERSALAM-12 2.0E	1	1
B12	8-00-00	VERSALAM-12 2.0E	2	2

HANGER SCHEDULE	
H1	LT251188 (TM)
H2	HUS1.81/10(FM)
H5	LT258(TM)

NOTE:
 TM ----- TOP MOUNT HANGERS
 FM ----- FACE MOUNT HANGERS

RIMBOARD	
1	1/8" X 11 7/8" O.S.B.
1	1/8" X 9 1/2" O.S.B.
SUBFLOOR - 3/4" NAILED & GLUED	
APP	AS PER PLAN
BBO	BEAM BY OTHERS

Ceramic tile application as per O.B.C. 9.30.6

1-2X6 SPF#2 Squash Block req'd on one side of each joist under interior load bearing wall. Multiple Squash Blocks are req'd under concentrated loads.

REVISION: June 29, 2018

MODEL: UNIT 4203 - EL.C
 - OPT. LOGGIA(W/SUNKEN)

First Floor Framing

Do not scale - refer to architectural plans for dimensions

11 7/8" BLOCKING
 TOTAL LENGTH: 41"

JT/PL: 45147/98839	Builder: Gold Park	Location: Vaughan	Designer: NL	Alpa Roof Trusses Inc.	Salesperson: Derek
LI: 299727(290672)	Project: Pine Valley	Date: December 18, 2017	Sheet: 12a of 12	Maple, Ontario	Home Lumber



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B21

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 29, 2018 16:43:48



BC CALC® Design Report

Build 6536

Job Name:

45147 (4203)

Address:

Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 290672.bcc

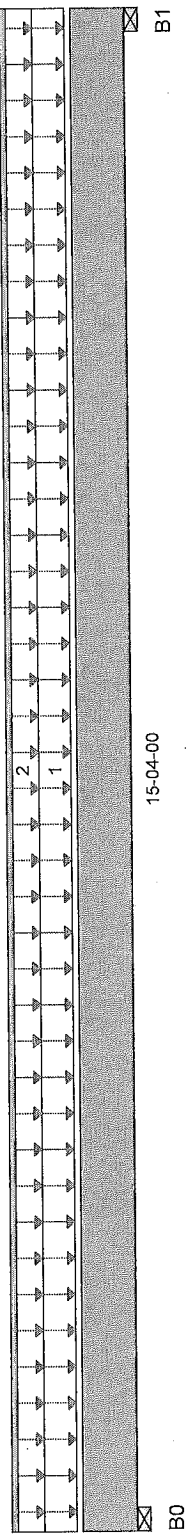
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 15'-04"-00"

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	2,147 / 0	1,626 / 0		
B1, 3-1/2"	2,147 / 0	1,626 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	00-00-00	15-04-00	40	20		1.00 1.15	07-00-00
2	Unf. Lin. (lb/ft)	L	00-00-00	15-04-00	60	60			n/a

Controls Summary

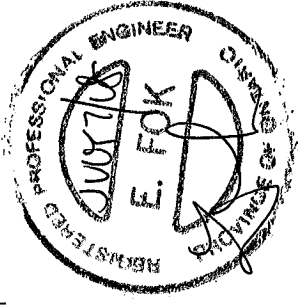
	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	18,947 ft-lbs	35,392 ft-lbs	53.5%	1	07-08-00
End Shear	4,374 lbs	14,464 lbs	30.2%	1	01-03-06
Total Load Defl.	L/322 (0.555")	0.744"	74.6%	4	07-08-00
Live Load Defl.	L/565 (0.316")	0.496"	63.7%	5	07-08-00
Max Defl.	0.555"	1"	55.5%	4	07-08-00
Span / Depth	15	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	5,252 lbs	69.7%	35.1%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	5,252 lbs	69.7%	35.1%	Spruce Pine Fir

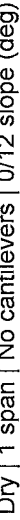
Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Nail one ply to another with
 3 1/2" spiral nails @ 10"
 o.c, staggered in 2 rows





Dry	1 span	No cantilevers	0.12 slope (deg)



File Name: 290672.bcc

45147 (4203)

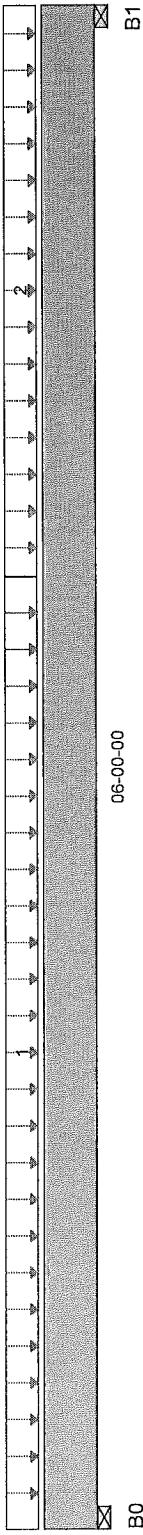
Pine Valley

:Vaughan, ON

Gold Park

CCMC 12472-R

Description: Second Floor Framing
 Specifier:
 Designer: NL
 Company: Alpa Roof Trusses
 Misc:



Total Horizontal Product Length = 06-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	2,020 / 0	1,046 / 0		
B1, 3-1/2"	1,940 / 0	1,006 / 0		

Load Summary

Tag	Tag Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15
1		Unf. Area (lb/ft^2)	L	00-00-00	03-09-00	40	20		17-00-00
2		Unf. Area (lb/ft^2)	L	03-09-00	06-00-00	40	20		15-08-00

Controls Summary

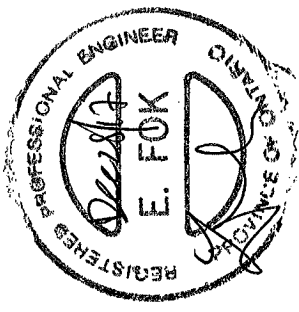
	5,490 ft-lbs	35,392 ft-lbs	15.5%	1	02-11-12
Moment					
End Shear	2,468 lbs	14,464 lbs	17.1%	1	01-03-06
Total Load Defl.	L/999 (0.022")	n/a	n/a	4	02-11-12
Live Load Defl.	L/999 (0.014")	n/a	n/a	5	02-11-12
Max Defl.	0.022"	n/a	n/a	4	02-11-12
Span / Depth	5.6	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

B0	Wall/Plate	3-1/2" x 3-1/2"	4,338 lbs	57.6%	Spruce Pine Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	4,167 lbs	55.3%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALCC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
 Nail one ply to another with 3 1/2" spiral nails @ 9"
 o.c. staggered in 2 rows
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4





Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B03



BC CALCO® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 12:43:51

Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

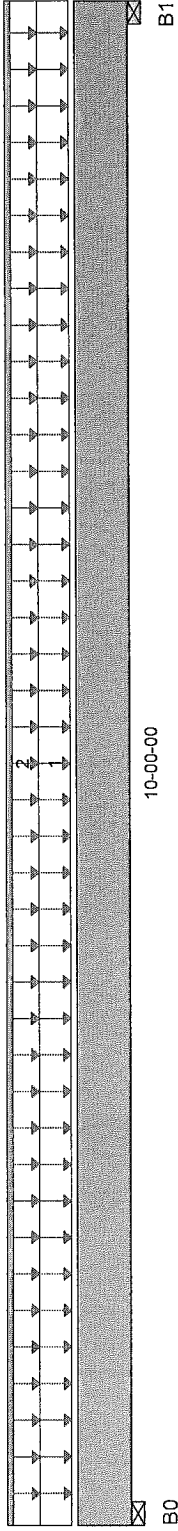
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 10-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Trib.
B0, 3-1/2"	1,400 / 0	855 / 0			
B1, 3-1/2"	1,400 / 0	855 / 0			

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	10-00-00	40	15			07-00-00
2	Unf. Lin. (lb/ft)	L	00-00-00	10-00-00	40	60			n/a

Controls Summary

Pos.	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	7,213 ft-lbs	17,696 ft-lbs	40.8%	1	05-00-00
End Shear	2,357 lbs	7,232 lbs	32.6%	1	01-03-06
Total Load Defl.	L/665 (0.172")	0.477"	36.1%	4	05-00-00
Live Load Defl.	L/999 (0.107")	n/a	n/a	5	05-00-00
Max Defl.	0.172"	1"	17.2%	4	05-00-00
Span / Depth	9.6	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

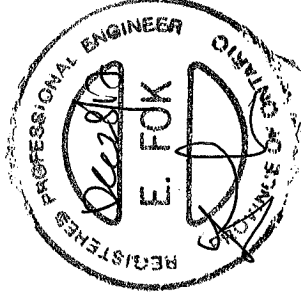
Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	3,169 lbs	84.1%	42.4%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	3,169 lbs	84.1%	42.4%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



BC CALCO®, BC FRAMER®, AUS™, ALLJOIST®, BC RIM BOARD™, BCi®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

S-152372



Boise Cascade

Quadruple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Floor Beam\B04

BC CALC® Design Report



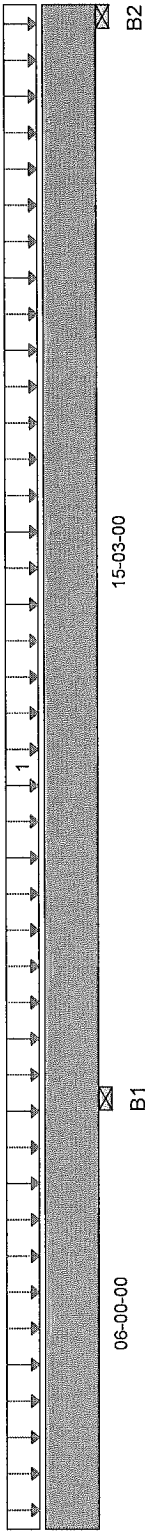
Dry | 2 spans | Left cantilever | 0/12 slope (deg)

November 12, 2017 10:53:50

Build 6080

Name: 45147 (4203)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290672.bcc
Description: Second Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 21-03-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	6,472 / 0	3,590 / 0		
B2, 3-1/2"	3,405 / 527	1,597 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	00-00-00	21-03-00	40	20		1.00 1.15	11-00-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Moment	24,541 ft-lbs	73,615 ft-lbs	33.3%	3	13-10-04
3. Moment	-17,372 ft-lbs	-73,615 ft-lbs	23.6%	1	06-00-00
End Shear	5,867 lbs	28,927 lbs	20.3%	3	19-11-10
Cont. Shear	7,309 lbs	28,927 lbs	25.3%	1	07-01-10
Total Load Defl.	L/520 (0.346")	0.751"	46.1%	10	13-09-00
Live Load Defl.	2xL/437 (-0.33")	-0.4"	82.4%	13	00-00-00
Total Neg. Defl.	2xL/399 (-0.361")	-0.6"	60.2%	10	00-00-00
Max Defl.	0.346"	1"	34.6%	10	13-09-00
Cant. Max Defl.	-0.361"	-1"	36.1%	10	00-00-00
Span / Depth	15.2	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Wall/Plate	3-1/2" x 7"	14,195 lbs	94.2%	47.5%	Spruce Pine Fir
B2 Wall/Plate	3-1/2" x 7"	7,104 lbs	47.1%	23.8%	Spruce Pine Fir

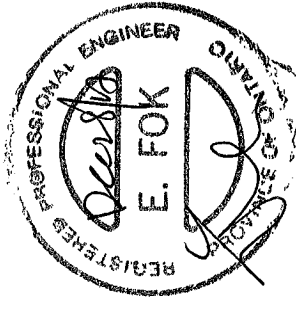
Cautions

Long Cantilever. Sheathing required on bottom flange and adjacent back span or bracing designed by the design professional of record. Design professional of record must address uplift at supports.

Notes

Nail one ply to another with
3 1/2" spiral nails @ 6"

O.C., staggered in 2 rows
+ washers @ 4'-0" O.C., STAGGERED
IN 2 ROWS



S-152373



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B05



BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 11:00:16

Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

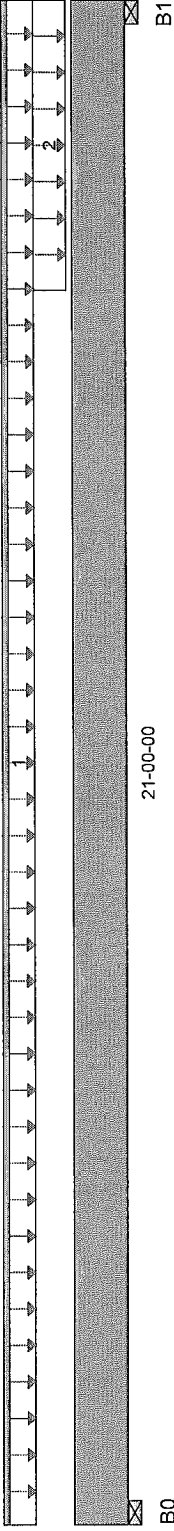
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 21'-00'-00"

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	339 / 0	294 / 0		
B1, 3-1/2"	868 / 0	493 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	21-00-00	27	14		1.00	1.15
2	Unf. Area (lb/ft²)	L	17-00-00	21-00-00	40	15			n/a

Controls Summary

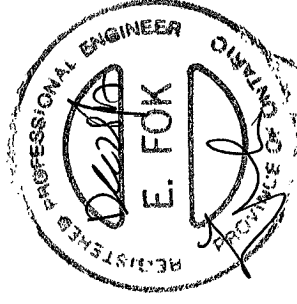
	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,053 ft-lbs	35,392 ft-lbs	14.3%	1	12-01-01
End Shear	1,421 lbs	14,464 lbs	9.8%	1	19-08-10
Total Load Defl.	L/852 (0.289")	1.027"	28.2%	4	10-10-05
Live Load Defl.	L/1,513 (0.163")	0.685"	23.8%	5	10-10-05
Max Defl.	0.289"	1"	28.9%	4	10-10-05
Span / Depth	20.8	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	876 lbs	11.6%	5.9%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	1,918 lbs	25.4%	12.8%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Nail one ply to another with 3 1/2" spiral nails @ 2' o.c, staggered in 2 rows



S-152374



Boise Cascade



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B06

Dry | 1 span | No cantilevers | 0/12 slope (deg)

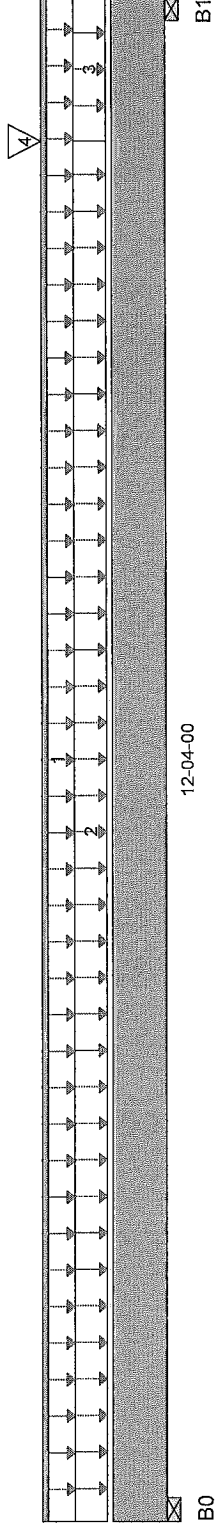
November 12, 2017 12:43:52

BC CALC® Design Report

Build 6080

Name: 45147 (4203)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290672.bcc
Description: Second Floor Framing
Specifier:
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 12-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	454 / 0	652 / 0		
B1, 3-1/2"	1,162 / 0	1,058 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	12-04-00	27	74			n/a
2	Unf. Area (lb/ft^2)	L	00-00-00	11-02-00	40	15			01-00-00
3	Unf. Area (lb/ft^2)	L	11-02-00	12-04-00	40	15			10-08-00
4	Conc. Pt. (lbs)	L	11-02-00	11-02-00	339	294			n/a

Controls Summary

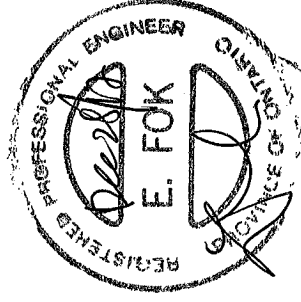
	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,596 ft-lbs	35,392 ft-lbs	13%	1	06-07-08
End Shear	2,529 lbs	14,464 lbs	17.5%	1	11-00-10
Total Load Defl.	L/999 (0.09")	n/a	n/a	4	06-03-13
Live Load Defl.	L/999 (0.038")	n/a	n/a	5	06-03-13
Max Defl.	0.09"	n/a	n/a	4	06-03-13
Span / Depth	12	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,496 lbs	19.8%	10%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	3,065 lbs	40.7%	20.5%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
ortance Factor : Normal Part code : Part 4
Nail one ply to another with
3 1/2" spiral nails @ 11
o.c, staggered in 2 rows



2.152375



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B07



BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 12:43:52

Build 6080

Name:

45147 (4203)

Address:

Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 290672.bcc

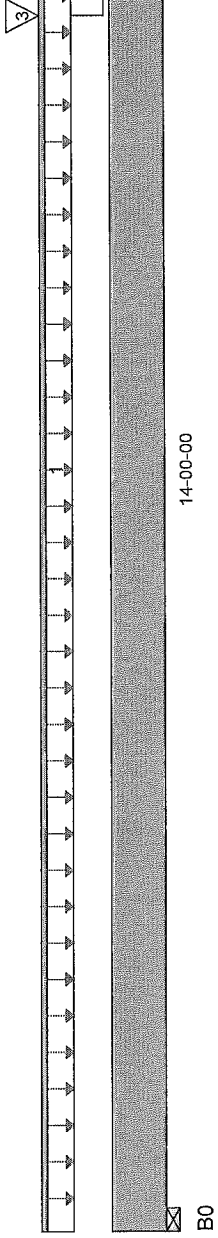
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 14'-00'-00"

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	438 / 0	686 / 0		
B1, 3-1/2"	1,742 / 0	1,278 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	14-00-00	27	74			n/a
2	Unf. Area (lb/ft²)	L	11-02-00	14-00-00	40	15			08-03-00
	Conc. Pt. (lbs)	L	11-02-00	11-02-00	868	493			n/a

Controls Summary

Pos. Moment	7,823 ft-lbs	17,696 ft-lbs	44.2%	1	10-10-04
End Shear	3,198 lbs	7,232 lbs	44.2%	1	12-08-10
Total Load Defl.	L/445 (0.365")	0.677"	54%	4	07-05-08
Live Load Defl.	L/927 (0.175")	0.451"	38.8%	5	07-09-03
Max Defl.	0.365"	1"	36.5%	4	07-05-08
Span / Depth	13.7	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

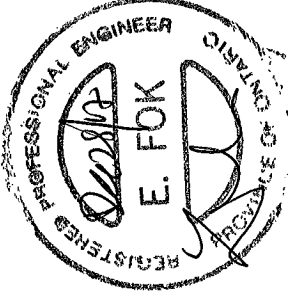
Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	1,515 lbs	40.2%	20.3%	Spruce Pine Fir
B1 Post	3-1/2" x 1-3/4"	4,211 lbs	39.6%	56.4%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4





Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B08



BC CALCO Design Report

Dry | 2 spans | Right cantilever | 0/12 slope (deg)

November 12, 2017 12:43:53

Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

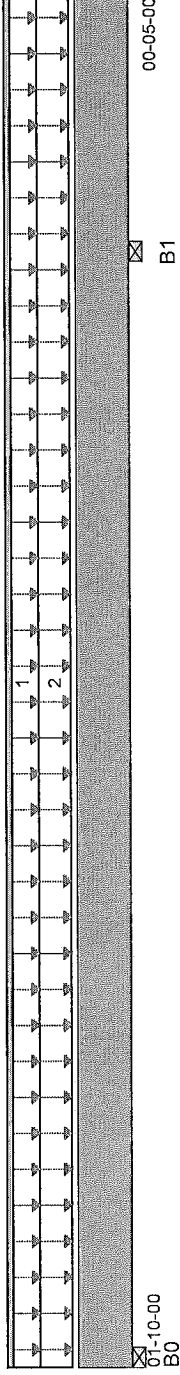
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 02-03-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Trib.
B0, 3-1/2"	28 / 1	188 / 0	127 / 0		
B1, 3-1/2"	34 / 0	244 / 0	160 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	02-03-00	27	114			n/a
2	Unf. Area (lb/ft²)	L	00-00-00	02-03-00	11			21	06-00-00

Controls Summary

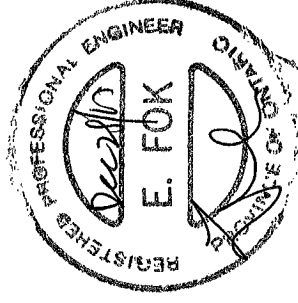
	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	128 ft-lbs	35,392 ft-lbs	0.4%	26	00-11-14
Neg. Moment	-38 ft-lbs	-35,392 ft-lbs	0.1%	31	01-10-00
End Shear	135 lbs	14,464 lbs	0.9%	31	01-03-06
Cont. Shear	-129 lbs	-14,464 lbs	0.9%	26	00-08-06
Total Load Defl.	L/999 (0")	n/a	n/a	66	01-00-02
Max Defl.	0"	n/a	n/a	66	01-00-02
Span / Depth	1.6	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	438 lbs	5.8%	2.9%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	563 lbs	7.5%	3.8%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALCO analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.
Nail one ply to another with
3 1/2" spiral nails @ 6"
o.c. staggered in 2 rows





Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Floor Beam\B09



BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 10:00:49

Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

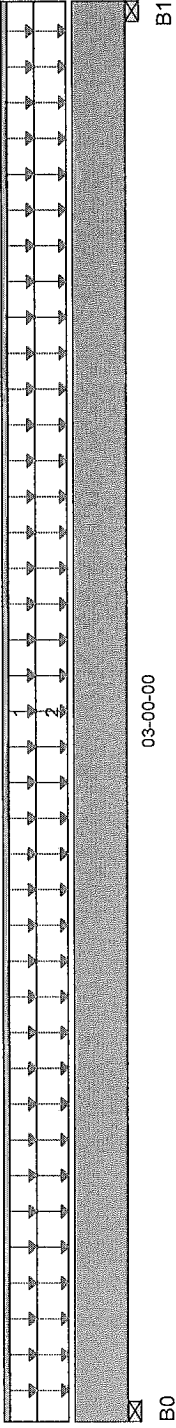
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 03-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Trib.
B0, 3-1/2"	40 / 0	338 / 0	283 / 0		
B1, 3-1/2"	41 / 0	338 / 0	283 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	27	114		1.00 1.15	n/a
2	Unf. Area (lb/ft²)	L	00-00-00	03-00-00	11	11		21	09-00-00

Controls Summary

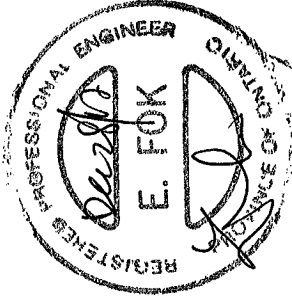
Pos.	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	467 ft-lbs	35,392 ft-lbs	1.3%	5	01-06-00
End Shear	127 lbs	14,464 lbs	0.9%	5	01-03-06
Total Load Defl.	L/999 (0")	n/a	n/a	13	01-06-00
Live Load Defl.	L/999 (0")	n/a	n/a	17	01-06-00
Max Defl.	0"	n/a	n/a	13	01-06-00
Span / Depth	2.6	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	867 lbs	11.5%	5.8%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	867 lbs	11.5%	5.8%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Nail one ply to another with
3 1/2" spiral nails @ 6"
o.c., staggered in 2 rows



S-152378



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B10



BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 10:00:42

Build 6080

Name:

45147 (4203)

Address:

Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer:

Gold Park

Code reports:

CCMC 12472-R

File Name: 290672.bcc

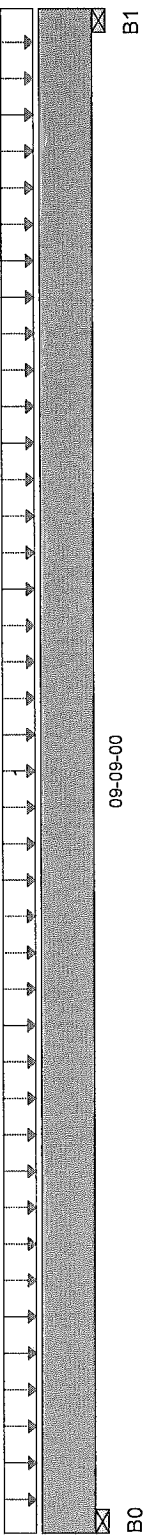
Description: First Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



09-09-00

Total Horizontal Product Length = 09-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,024 / 0	413 / 0		
B1, 3-1/2"	1,024 / 0	413 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	09-09-00	40	15		1.00 1.15	05-03-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Moment	4,543 ft-lbs	17,696 ft-lbs	25.7%	1	04-10-08
Shear	1,513 lbs	7,232 lbs	20.9%	1	01-03-06
Total Load Defl.	L/999 (0.101")	n/a	n/a	4	04-10-08
Live Load Defl.	L/999 (0.072")	n/a	n/a	5	04-10-08
Max Defl.	0.101"	n/a	n/a	4	04-10-08
Span / Depth	9.4	n/a	n/a		00-00-00
Squash Blocks	Valid				

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 1-800-964-6999 before installation.

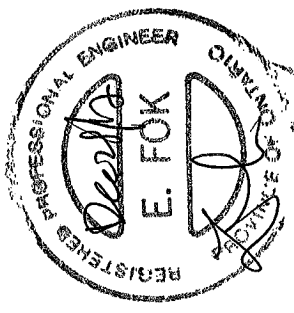
Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	2,052 lbs	54.5%	27.5%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	2,052 lbs	54.5%	27.5%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



Q.152379



Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B11

BC CALC® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 10:00:41



Project: 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

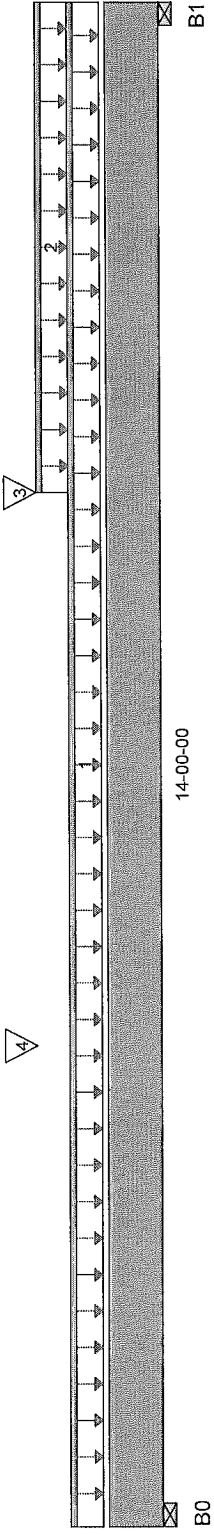
Description: First Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 14-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	872 / 0	828 / 0		
B1, 3-1/2"	1,146 / 0	954 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	14-00-00	27	74			n/a
	Unf. Lin. (lb/ft)	L	09-06-00	14-00-00	27	14			n/a
	Conc. Pt. (lbs)	L	09-06-00	09-06-00	1,024	413			n/a
4	Conc. Pt. (lbs)	L	04-05-00	04-05-00	495	186			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	10,431 ft-lbs	17,696 ft-lbs	58.9%	1	09-06-00
End Shear	2,658 lbs	7,232 lbs	36.8%	1	12-08-10
Total Load Defl.	L/327 (0.497")	0.677"	73.4%	4	07-01-06
Live Load Defl.	L/583 (0.279")	0.451"	61.7%	5	07-03-05
Max Defl.	0.497"	1"	49.7%	4	07-01-06
Span / Depth	13.7	n/a	n/a		00-00-00
Squash Blocks	Valid				

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 1-800-964-6999 before installation.

Bearing Supports

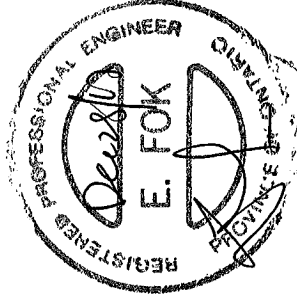
	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	2,343 lbs	62.2%	31.4%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	2,912 lbs	77.3%	39%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 4



S-152380



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B12

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 10:00:40

BC CALCO® Design Report



Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

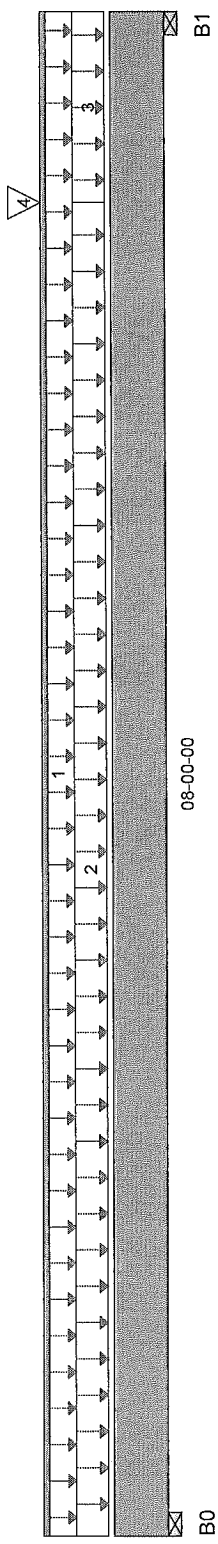
Description: First Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 08-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,338 / 0	619 / 0		
B1, 3-1/2"	2,075 / 0	1,312 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	08-00-00	27	14			n/a
	Unf. Area (lb/ft^2)	L	00-00-00	07-00-00	40	15			07-00-00
	Unf. Area (lb/ft^2)	L	07-00-00	08-00-00	40	15			02-03-00
4	Conc. Pt. (lbs)	L	07-00-00	07-00-00	1,146	954			n/a

Controls Summary

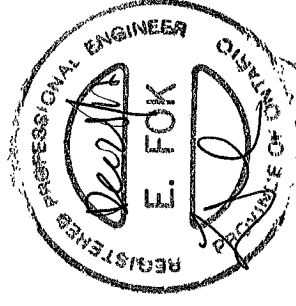
	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,568 ft-lbs	35,392 ft-lbs	15.7%	1	04-05-02
End Shear	3,780 lbs	14,464 lbs	26.1%	1	06-08-10
Total Load Defl.	L/999 (0.042")	n/a	n/a	4	04-01-00
Live Load Defl.	L/999 (0.028")	n/a	n/a	5	04-01-00
Max Defl.	0.042"	n/a	n/a	4	04-01-00
Span / Depth	7.6	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	2,780 lbs	36.9%	18.6%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	4,752 lbs	63.1%	31.8%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Nail one ply to another with 3 1/2" spiral nails @ 12" o.c, staggered in 2 rows



S.152381



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B14



BC CALC® Design Report

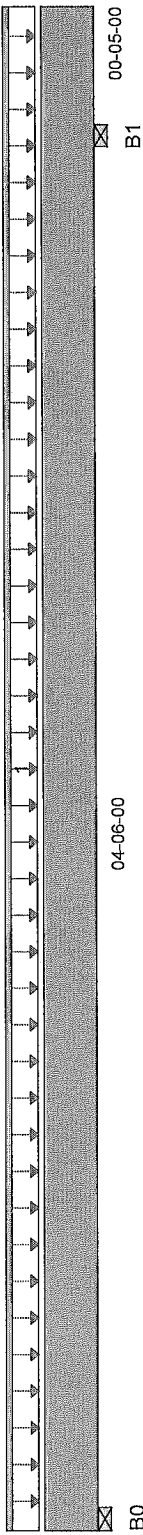
Dry | 2 spans | Right cantilever | 0/12 slope (deg)

November 12, 2017 10:56:10

Build 6080

Name: 45147 (4203)
Address: Pine Valley
City, Province, Postal Code: Vaughan, ON
Customer: Gold Park
Code reports: CCMC 12472-R

File Name: 290672.bcc
Description: Second Floor Framing
Specifier: NL
Designer: NL
Company: Alpa Roof Trusses
Misc:



Total Horizontal Product Length = 04-11-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	64 / 1	295 / 0		
B1, 3-1/2"	69 / 0	324 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	04-11-00	27	114			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Moment	395 ft-lbs	23,005 ft-lbs	1.7%	0	02-04-04
∫ ₀ Moment	-15 ft-lbs	n/a	n/a	0	04-06-00
End Shear	188 lbs	9,401 lbs	2%	0	01-03-06
Cont. Shear	180 lbs	9,401 lbs	1.9%	0	03-04-06
Total Load Defl.	L/999 (0.001")	n/a	n/a	9	02-04-04
Live Load Defl.	L/999 (0")	n/a	n/a	12	02-04-04
Total Neg. Defl.	2xL/1,998 (-0")	n/a	n/a	9	04-11-00
Max Defl.	0.001"	n/a	n/a	9	02-04-04
Cant. Max Defl.	-0"	n/a	n/a	9	04-11-00
Span / Depth	4.3	n/a	n/a		00-00-00
Squash Blocks	Valid				

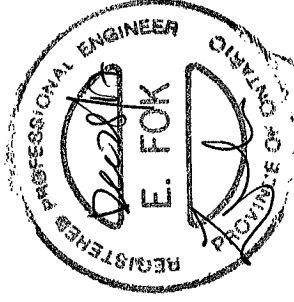
Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	414 lbs	8.4%	4.3%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	454 lbs	9.3%	4.7%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Design meets arbitrary (1") Cantilever Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
tilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

Nail one ply to another with
3 1/2" spiral nails @ 12"
o.c, staggered in 2 rows





Boise Cascade

Quadruple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Floor Beam\B15



BC CALCo® Design Report

Dry | 2 spans | Left cantilever | 0/12 slope (deg)

November 12, 2017 11:18:49

Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

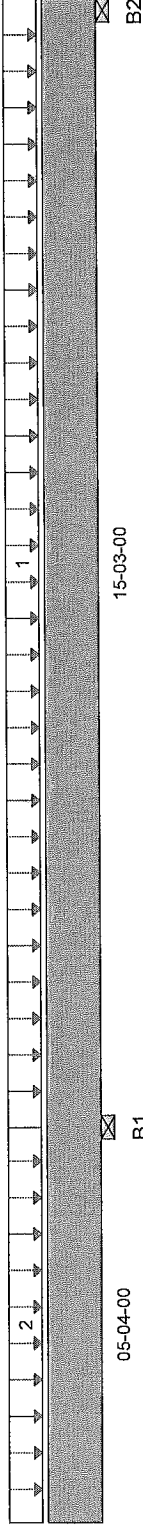
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 20-07-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Trib.
B1, 3-1/2"	5,984 / 0	3,324 / 0			
B2, 3-1/2"	3,405 / 404	1,664 / 0			

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	05-04-00	20-07-00	40	20			11-00-00
2	Unf. Area (lb/ft^2)	L	00-00-00	05-04-00	40	20			10-08-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	25,148 ft-lbs	73,615 ft-lbs	34.2%	3	13-01-00
Neg. Moment	-13,323 ft-lbs	-73,615 ft-lbs	18.1%	1	05-04-00
End Shear	5,952 lbs	28,927 lbs	20.6%	3	19-03-10
Cont. Shear	7,039 lbs	28,927 lbs	24.3%	1	06-05-10
Total Load Defl.	L/502 (0.359")	0.751"	47.8%	10	12-10-10
Live Load Defl.	2xL/437 (-0.293")	-0.356"	82.4%	13	00-00-00
Total Neg. Defl.	2xL/361 (-0.355")	-0.533"	66.5%	10	00-00-00
Max Defl.	0.359"	1"	35.9%	10	12-10-10
Cant. Max Defl.	-0.355"	-1"	35.5%	10	00-00-00
Span / Depth	15.2	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

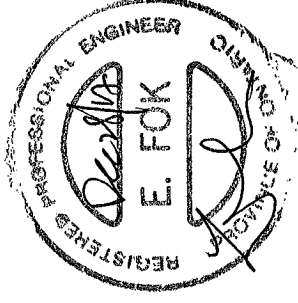
	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Wall/Plate	3-1/2" x 7"	13,131 lbs	87.1%	43.9%	Spruce Pine Fir
B2 Wall/Plate	3-1/2" x 7"	7,188 lbs	47.7%	24%	Spruce Pine Fir

Cautions

Long Cantilever: Sheathing required on bottom flange and adjacent back span or bracing designed by the design professional of record. Design professional of record must address uplift at supports.

Notes

Nail one ply to another with
3 1/2" spiral nails @ 6"
o.c, staggered in 2 rows
NUTS & WASHERS @ 4'-0" o.c.,
STAGGERED IN 2 ROWS





Boise Cascade

Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B16



BC CALCO® Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 11:04:15

Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

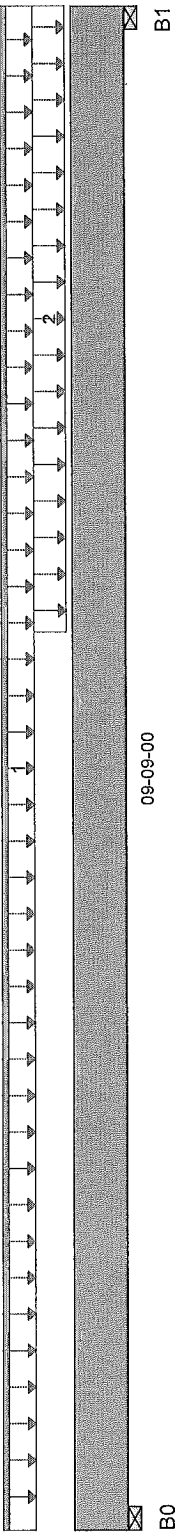
Description: Second Floor Framing

Specifier: NL

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 09-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	254 / 0	143 / 0		
B1, 3-1/2"	649 / 0	292 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	09-09-00	1.00	0.65		1.00	1.15
2	Unf. Area (lb/ft²)	L	05-09-00	09-09-00	40	15			n/a

Controls Summary

Pos.	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,056 ft-lbs	17,696 ft-lbs	11.6%	1	06-03-02
End Shear	851 lbs	7,232 lbs	11.8%	1	08-05-10
Total Load Defl.	L/999 (0.043")	n/a	n/a	4	05-02-05
Live Load Defl.	L/999 (0.029")	n/a	n/a	5	05-02-05
Max Defl.	0.043"	n/a	n/a	4	05-02-05
Span / Depth	9.4	n/a	n/a		00-00-00
Squash Blocks	Valid				

Disclosure

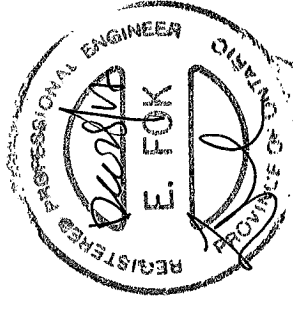
Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	560 lbs	14.9%	7.5%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,338 lbs	35.5%	17.9%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4



S.152385



Boise Cascade

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Floor Beam\B17



BC CALCO Design Report

Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 11:06:56

Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

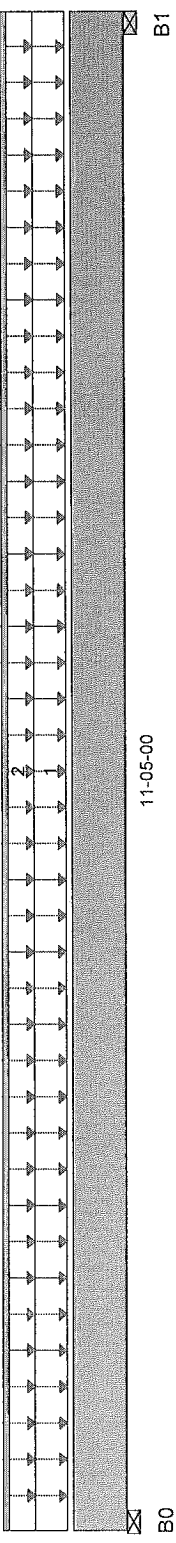
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 11-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3"	1,592 / 0	1,206 / 0		
B1, 3-1/2"	1,604 / 0	1,215 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	00-00-00	11-05-00	40	20			07-00-00
2	Unf. Lin. (lb/ft)	L	00-00-00	11-05-00	60	60			n/a

Controls Summary

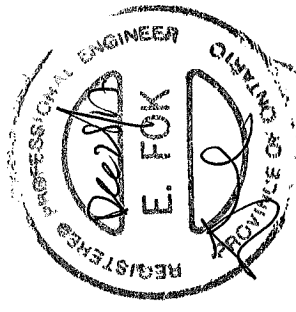
	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	10,361 ft-lbs	35,392 ft-lbs	29.3%	1	05-08-04
End Shear	3,047 lbs	14,464 lbs	21.1%	1	01-02-14
Total Load Defl.	L/795 (0.166")	0.55"	30.2%	4	05-08-04
Live Load Defl.	L/999 (0.094")	n/a	n/a	5	05-08-04
Max Defl.	0.166"	1"	16.6%	4	05-08-04
Span / Depth	11.1	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3" x 3-1/2"	3,896 lbs	60.3%	30.4%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	3,925 lbs	52.1%	26.3%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALCO analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Nail one ply to another with
3 1/2" spiral nails @ 10"
o.c, staggered in 2 rows



S-152386



File Name: 290672.bcc

Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Total Horizontal Product Length = 17-06-00

1,615 / 0

Snow Wind

1-

Location

Squash Blocks

	Demand/ Resistance	Demand/ Resistance
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
37	37	37
38	38	38
39	39	39
40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
50	50	50
51	51	51
52	52	52
53	53	53
54	54	54
55	55	55
56	56	56
57	57	57
58	58	58
59	59	59
60	60	60
61	61	61
62	62	62
63	63	63
64	64	64
65	65	65
66	66	66
67	67	67
68	68	68
69	69	69
70	70	70
71	71	71
72	72	72
73	73	73
74	74	74
75	75	75
76	76	76
77	77	77
78	78	78
79	79	79
80	80	80
81	81	81
82	82	82
83	83	83
84	84	84
85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

3-1/2" x 3-1/2" 5,762 lbs

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection of

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

Nail one ply to another with

3 1/2" spiral nails @ 24"

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 4





Dry | 1 span | No cantilevers | 0/12 slope (deg)

November 12, 2017 12:07:19

BC CALCO Design Report



Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

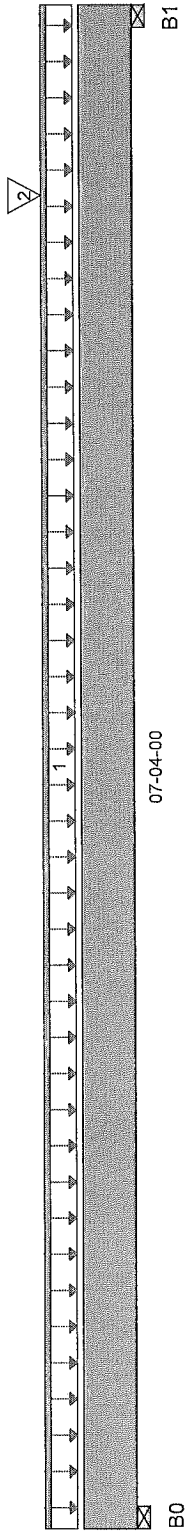
Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



07-04-00

Total Horizontal Product Length = 07-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	396 / 0	279 / 0		
B1, 3-1/2"	2,392 / 0	1,571 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	07-04-00	40	20			n/a
2	Conc. Pt. (lbs)	L	06-05-00	06-05-00	2,495	1,615			n/a

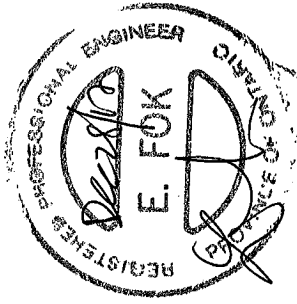
Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,777 ft-lbs	35,392 ft-lbs	10.7%	1	06-05-00
End Shear	3,301 lbs	14,464 lbs	22.8%	1	06-00-10
Total Load Defl.	L/999 (0.019")	n/a	n/a	4	04-00-08
Live Load Defl.	L/999 (0.011")	n/a	n/a	5	04-01-06
Max Defl.	0.019"	n/a	n/a	4	04-00-08
Span / Depth	6.9	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	943 lbs	12.5%	6.3%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	5,552 lbs	73.7%	37.2%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALCO analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Nail one ply to another with 3 1/2" spiral nails @ 12" o.c, staggered in 2 rows





Boise Cascade

Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

Floor Beam\B20



BC CALC® Design Report

Dry | 2 spans | No cantilevers | 0/12 slope (deg)

November 12, 2017 12:43:45

Build 6080

Name: 45147 (4203)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Customer: Gold Park

Code reports: CCMC 12472-R

File Name: 290672.bcc

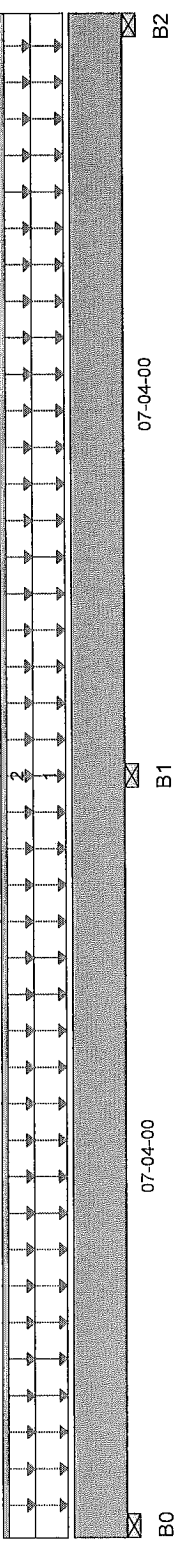
Description: First Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Misc:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	489 / 65	400 / 0		
B1, 3-1/2"	1,302 / 0	1,227 / 0		
B2, 3-1/2"	489 / 65	400 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	14-08-00	40	20			03-08-00
2	Unf. Lin. (lb/ft)	L	00-00-00	14-08-00		60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,666 ft-lbs	11,610 ft-lbs	14.3%	2	03-01-14
Neg. Moment	-2,477 ft-lbs	-11,610 ft-lbs	21.3%	1	07-04-00
End Shear	808 lbs	5,785 lbs	14%	2	01-01-00
Cont. Shear	1,375 lbs	5,785 lbs	23.8%	1	06-04-12
Total Load Defl.	L/999 (0.037")	n/a	n/a	9	03-04-14
Live Load Defl.	L/999 (0.024")	n/a	n/a	12	03-06-14
Total Neg. Defl.	L/999 (-0.004")	n/a	n/a	9	08-05-04
Max Defl.	0.037"	n/a	n/a	9	03-04-14
Span / Depth	9	n/a	n/a		00-00-00
Squash Blocks	Valid				

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 1-800-964-6999 before installation.

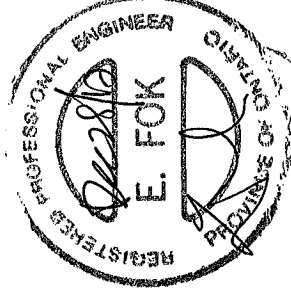
BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

Bearing Supports	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	1,234 lbs	32.7%	16.5%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	3,487 lbs	92.5%	46.7%	Spruce Pine Fir
B2 Wall/Plate	3-1/2" x 1-3/4"	1,234 lbs	32.7%	16.5%	Spruce Pine Fir

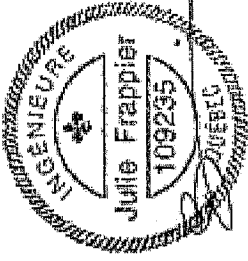
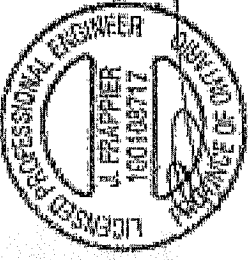
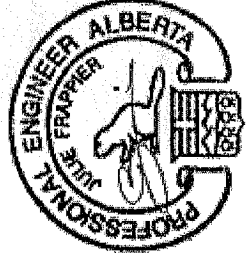
Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum Total load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4



S.152389

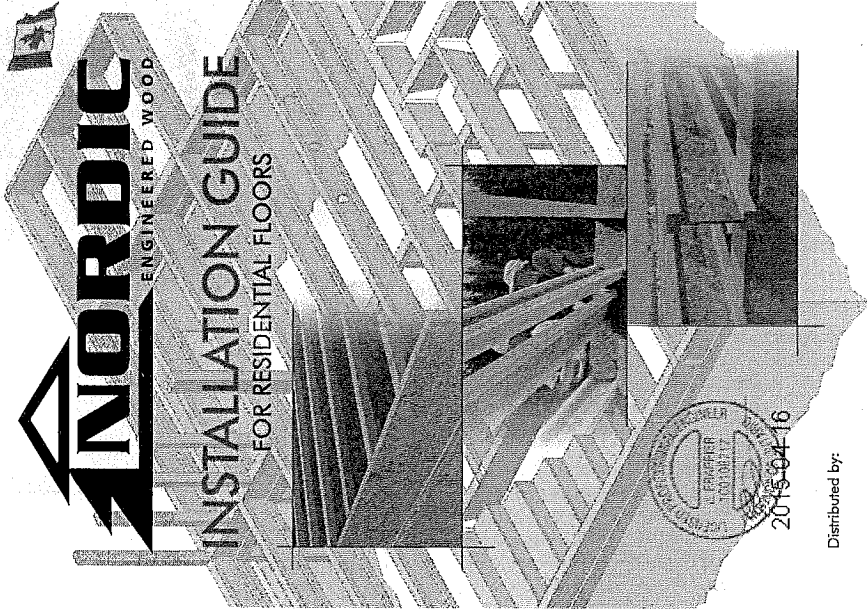


Maximum Floor Spans

Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/360 Deflection Limit
3/4" OSB G&N Sheathing

Depth	Series	Bare			1/2" Gypsum Ceiling		
		On Centre Spacing			On Centre Spacing		
		12"	16"	19.2"	12"	16"	19.2"
9-1/2"	NI-20	15'-10"	15'-0"	14'-5"	16'-4"	15'-5"	14'-6"
	NI-40x	17'-0"	16'-0"	15'-5"	17'-5"	16'-5"	15'-10"
	NI-60	17'-2"	16'-2"	15'-7"	17'-6"	16'-7"	15'-11"
	NI-70	18'-0"	16'-11"	16'-3"	18'-5"	17'-3"	15'-11"
	NI-80	18'-3"	17'-1"	16'-5"	18'-8"	17'-5"	16'-1"
11-7/8"	NI-20	17'-10"	16'-10"	15'-6"	18'-6"	17'-4"	16'-9"
	NI-40x	19'-4"	17'-11"	17'-3"	19'-11"	18'-6"	17'-9"
	NI-60	19'-7"	18'-2"	17'-5"	20'-2"	18'-9"	17'-2"
	NI-70	20'-9"	19'-2"	18'-3"	21'-4"	19'-9"	18'-10"
	NI-80	21'-1"	19'-5"	18'-6"	21'-7"	20'-0"	18'-0"
14"	NI-90x	21'-8"	20'-0"	19'-1"	22'-2"	20'-6"	19'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	22'-1"	20'-6"	19'-7"
	NI-60	21'-10"	20'-2"	19'-3"	22'-5"	20'-10"	19'-11"
	NI-70	23'-0"	21'-3"	20'-3"	23'-8"	21'-11"	20'-10"
	NI-80	23'-5"	21'-7"	20'-7"	24'-0"	22'-3"	21'-2"
16"	NI-90x	24'-1"	22'-3"	21'-2"	24'-8"	22'-10"	20'-7"
	NI-40x	23'-9"	22'-0"	20'-11"	24'-6"	22'-9"	21'-8"
	NI-60	25'-1"	23'-2"	22'-0"	25'-9"	23'-10"	22'-9"
	NI-70	25'-6"	23'-6"	22'-4"	26'-1"	24'-2"	23'-1"
	NI-80	26'-4"	24'-3"	23'-1"	26'-11"	24'-11"	23'-8"
Depth	Series	Mid-Span Blocking			Mid-Span Blocking and 1/2" Gypsum Ceiling		
		On Centre Spacing			On Centre Spacing		
		12"	16"	19.2"	12"	16"	19.2"
9-1/2"	NI-20	17'-1"	15'-5"	14'-6"	17'-1"	15'-5"	14'-6"
	NI-40x	18'-8"	17'-6"	16'-7"	19'-2"	17'-8"	16'-7"
	NI-60	18'-11"	17'-8"	16'-10"	19'-4"	18'-0"	16'-10"
	NI-70	20'-0"	18'-7"	17'-9"	20'-5"	19'-0"	18'-2"
	NI-80	20'-3"	18'-10"	17'-11"	20'-8"	19'-3"	18'-4"
11-7/8"	NI-20	20'-2"	18'-8"	17'-6"	20'-7"	18'-8"	17'-6"
	NI-40x	21'-10"	20'-4"	19'-5"	22'-5"	20'-11"	19'-9"
	NI-60	22'-1"	20'-7"	19'-7"	22'-8"	21'-2"	20'-3"
	NI-70	23'-4"	21'-8"	20'-8"	23'-10"	22'-3"	21'-3"
	NI-80	23'-7"	21'-11"	20'-11"	24'-1"	22'-6"	21'-5"
14"	NI-90x	24'-3"	22'-6"	21'-6"	24'-8"	23'-0"	22'-0"
	NI-40x	24'-5"	22'-9"	21'-8"	25'-1"	23'-6"	21'-9"
	NI-60	24'-10"	23'-1"	22'-0"	25'-6"	23'-10"	22'-9"
	NI-70	26'-1"	24'-3"	23'-2"	26'-8"	24'-11"	23'-9"
	NI-80	26'-6"	24'-7"	23'-5"	27'-1"	25'-3"	24'-1"
16"	NI-90x	27'-3"	25'-4"	24'-1"	27'-9"	25'-11"	24'-8"
	NI-60	27'-3"	25'-5"	24'-2"	28'-0"	26'-2"	25'-0"
	NI-70	28'-8"	26'-8"	25'-4"	29'-3"	27'-4"	26'-1"
	NI-80	29'-1"	27'-0"	25'-9"	29'-8"	27'-9"	26'-5"
	NI-90x	29'-11"	27'-10"	26'-6"	30'-6"	28'-5"	27'-2"

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of $1.50L + 1.25D$. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of $L/360$ and a total load deflection limit of $L/240$.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



SAFETY AND CONSTRUCTION PRECAUTIONS



WARNING

I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

Avoid Accidents by Following these Important Guidelines:

1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at joist ends. When I-joists are applied continuous over multiple spans, blocking will be required at that location.
2. When the building is completed, the floor sheathing will provide lateral support for the webs of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
 - Temporary bracing or struts must be 1-1/2 inch minimum, at least 8 feet long and spaced no more than 8 feet on centers, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bracing.
4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
5. Never install a damaged I-joist.

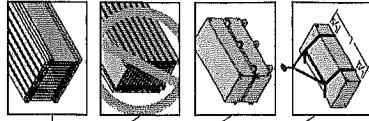


Never stack building materials over unshathed I-joists. Once attached, do not over-stress I-joists with concentrated loads from building materials.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for NordiC I-joists, failure to follow allowable hole sized locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

STORAGE AND HANDLING GUIDELINES

1. Bundle wrap can be slippery when wet. Avoid walking on wrapped bundles.
2. Store, stack, and handle I-joists vertically and level only.
3. Always stack and handle I-joists in the upright position only.
4. Do not store I-joists in direct contact with the ground and/or flammable.
5. Protect I-joists from weather, and use spacers to separate bundles.
6. Bundled units should be kept intact until time of installation.
7. When handling I-joists with a crane on the job site, take a few simple precautions to prevent damage to the I-joists and injury to your work crew.
 - Pick I-joists in bundles as shipped by the supplier.
 - Orient the bundles so that the webs of the I-joists are vertical.
 - Pick the bundles at the 5th points, using a spreader bar if necessary.
8. Do not handle I-joists in a horizontal orientation.
9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.



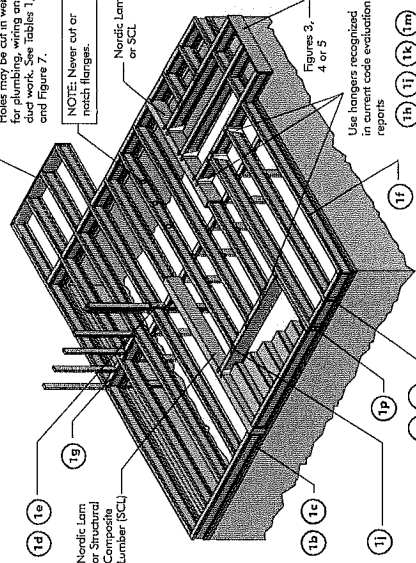
INSTALLING NORDIC I-JOISTS

1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, contact supplier.
2. Except for cutting to length, I-joist flanges should **never** be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple spans must be level.
5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings.
6. When using hangers, seal I-joists firmly in hanger bottoms to minimize settlement.
7. Leave a 1/16-inch gap between the I-joist end and a header.
8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension. In the completed structure, never suspend unusual or heavy loads from the I-joist's bottom flange. Whenever possible, suspend all concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist webs.
9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with concrete or masonry.
10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
12. Due to shrinkage, common framing lumber set on edge may **never** be used as blocking or rim boards. I-joist blocking panels or other engineered wood products – such as rim board – must be cut to fit between the I-joists, and an I-joist-compatible depth selected.
13. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly support the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension. In the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
15. Nail sheathing. Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans.

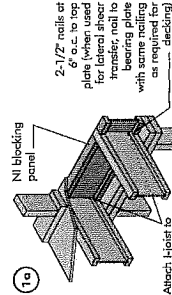
FIGURE 1

TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

Some framing requirements such as erection bracing and blocking panels have been omitted for clarity.

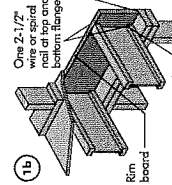


All calls shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.125" dia.) common spall nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.



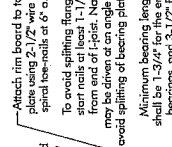
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load (psf)
1-1/2" Rim Board Plus	3,300

*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. For other load durations, such as joist, head, or rafter, for concentrated vertical load transfer, see detail 1d.



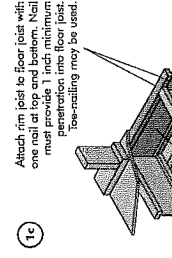
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load (psf)
1-1/2" Rim Board Plus	5,075

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. If shall not be used for concentrated vertical load transfer, or rafter, for concentrated vertical load transfer, see detail 1d.



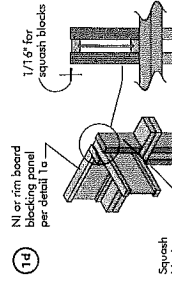
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load (psf)
1-1/2" Rim Board Plus	5,075

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. If shall not be used for concentrated vertical load transfer, or rafter, for concentrated vertical load transfer, see detail 1d.



Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load (psf)
1-1/2" Rim Board Plus	5,075

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. If shall not be used for concentrated vertical load transfer, or rafter, for concentrated vertical load transfer, see detail 1d.



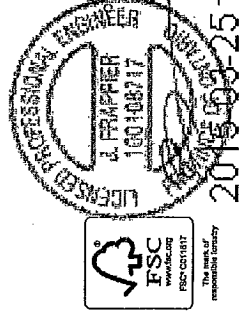
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load (psf)
1-1/2" Rim Board Plus	5,075

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. If shall not be used for concentrated vertical load transfer, or rafter, for concentrated vertical load transfer, see detail 1d.



www.nordicewp.com

Refer to the Installation Guide for Residential Floors for additional information.
CMC EVALUATION REPORT 13032-R



WEB HOLE SPECIFICATIONS

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- I-joint top and bottom flanges must NEVER be cut, notched, or otherwise modified.
- Whenever possible, field-cut holes should be centred on the middle of the web.
- The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joint web shall equal the clear distance between the flanges of the I-joint minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joint flange.

- The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
- Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
- A knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.

- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
- All holes and duct chase openings shall be cut in a workmanlike manner in accordance with the restrictions listed above and as illustrated in Figure 7.
- Limit three maximum size holes per span, of which one may be a duct chase opening.
- A group of round holes of approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

TABLE 1

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

Joist Depth	Joist Series	Minimum Distance from Inside Face of Any Support to Centre of Hole (ft. - in.)										
		2	3	4	5	6	6-1/4	7	8	8-5/8	9	10
9-1/2"	NL-20	0-7"	1-6"	2-10"	4-3"	5-8"	6-0"	---	---	---	---	12-3/4
	NL-40x	0-7"	1-6"	2-10"	4-4"	5-9"	6-0"	---	---	---	---	---
	NL-40	1-3"	2-6"	4-0"	5-4"	7-0"	7-5"	---	---	---	---	---
	NL-70	2-3"	3-6"	4-9"	6-3"	8-0"	8-4"	---	---	---	---	---
	NL-80	2-3"	3-6"	4-9"	6-6"	8-2"	8-8"	---	---	---	---	---
11-7/8"	NL-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-5"	7-8"	---	---
	NL-40x	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-5"	7-8"	---	---
	NL-40	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-5"	7-8"	---	---
	NL-70	1-3"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---
	NL-80	1-3"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---
14"	NL-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-5"	7-8"	---	---
	NL-40x	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-5"	7-8"	---	---
	NL-40	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-5"	7-8"	---	---
	NL-70	1-3"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---
	NL-80	1-3"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---
16"	NL-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-5"	7-8"	---	---
	NL-40x	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-5"	7-8"	---	---
	NL-40	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-5"	7-8"	---	---
	NL-70	1-3"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---
	NL-80	1-3"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---

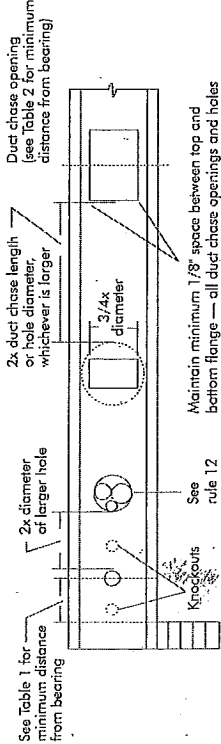
1. Above table may be used for I-joint spacing of 24 inches on centre or less.

2. Hole location distance is measured from inside face of supports to centre of hole.

3. Distances in this chart are based on uniformly loaded joists.

4. The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

FIELD-CUT HOLE LOCATOR



See Table 1 for minimum distance from bearing

2x duct chase length or hole diameter, whichever is larger

Duct chase opening (see Table 2 for minimum distance from bearing)

3/4x diameter

Maintain minimum 1/8" space between top and bottom flange — all duct chase openings and holes

See rule 12

Knockouts



Do not walk on I-joists until fully fastened and braced, or serious injuries can result.



Never stack building materials over unbraced I-joists. Once I-joists with concentrated loads from building materials.

SAFETY AND CONSTRUCTION PRECAUTIONS

WARNING: I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

- Brace and nail each I-joint as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at I-joint ends. When I-joists are applied continuously over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
- When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joint rollover or buckling.
 - Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joint. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
- For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bracing.
- Install and fully nail permanent sheathing to each I-joint before placing loads on the floor system. Then, stack building materials over beams or walls only.
- Never install a damaged I-joint.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

TABLE 2

DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

Joist Depth	Joist Series	Minimum distance from inside face of supports to centre of opening (ft. - in.)										
		8	10	12	14	16	18	20	22	24		
9-1/2"	NL-20	4-1"	4-5"	4-10"	5-4"	5-8"	6-1"	6-6"	7-1"	7-5"		
	NL-40x	5-3"	5-8"	6-0"	6-5"	6-10"	6-5"	6-10"	7-3"	7-8"		
	NL-60	5-4"	5-9"	6-2"	6-7"	7-1"	7-5"	8-0"	8-5"	8-9"		
	NL-70	5-1"	5-5"	6-0"	6-5"	6-10"	7-1"	7-5"	8-1"	8-5"		
	NL-80	5-3"	5-8"	6-0"	6-5"	6-10"	7-1"	7-5"	8-1"	8-5"		
11-7/8"	NL-20	5-9"	6-2"	6-6"	7-0"	7-5"	7-9"	8-3"	8-9"	9-4"		
	NL-40x	6-8"	7-2"	7-6"	8-0"	8-4"	8-8"	9-2"	9-6"	10-0"		
	NL-60	7-0"	7-4"	7-8"	8-2"	8-6"	9-0"	9-4"	9-8"	10-2"		
	NL-70	7-1"	7-5"	7-9"	8-3"	8-7"	9-1"	9-5"	9-9"	10-3"		
	NL-80	7-3"	7-7"	8-1"	8-5"	8-9"	9-3"	9-7"	10-1"	10-5"		
14"	NL-20	7-6"	7-11"	8-0"	8-9"	9-2"	10-1"	10-7"	12-4"	12-11"		
	NL-40x	7-7"	8-1"	8-5"	8-10"	9-4"	9-8"	10-2"	10-8"	11-2"		
	NL-60	8-1"	8-7"	9-0"	9-6"	10-1"	10-7"	11-2"	12-0"	12-6"		
	NL-70	8-0"	9-3"	9-8"	10-1"	10-6"	11-1"	11-6"	12-3"	13-0"		
	NL-80	8-7"	9-1"	9-5"	10-0"	10-4"	10-8"	11-2"	11-7"	12-3"		
16"	NL-20	9-0"	9-6"	9-9"	10-5"	10-9"	11-5"	11-9"	12-4"	12-11"		
	NL-40x	9-2"	9-8"	10-0"	10-6"	11-0"	11-6"	12-0"	12-6"	13-2"		
	NL-60	9-4"	9-9"	10-3"	10-7"	11-1"	11-5"	11-9"	12-4"	13-0"		
	NL-70	10-3"	10-8"	11-2"	11-6"	12-0"	12-4"	12-8"	13-2"	13-7"		
	NL-80	10-1"	10-5"	11-0"	11-4"	11-8"	12-2"	12-6"	13-0"	13-4"		
18"	NL-20	10-4"	10-9"	11-3"	11-8"	12-2"	12-6"	13-0"	13-4"	13-8"		
	NL-40x	10-9"	11-4"	11-8"	12-2"	12-6"	13-0"	13-4"	13-8"	14-2"		
20"	NL-20	11-1"	11-5"	11-9"	12-3"	12-7"	13-1"	13-5"	13-9"	14-3"		
	NL-40x	11-1"	11-5"	11-9"	12-3"	12-7"	13-1"	13-5"	13-9"	14-3"		

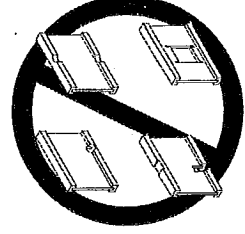
1. Above table may be used for I-joint spacing of 24 inches on centre or less.

2. Duct chase opening location distance is measured from inside face of supports to centre of opening.

3. The above table is based on simple-span joists only. For other applications, contact your local distributor.

4. Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480.

5. The above table is based on the I-joists being used at their maximum spans. The minimum distance given above may be reduced for shorter spans; contact your local distributor.



Knockouts are pre-scored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on centre along the length of the I-joint. Where possible, it is preferable to use knockouts instead of field-cut holes.

Never drill, cut or notch the flanges, or over-cut the web.

Holes in webs should be cut with a sharp saw.

For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joint.



Do not walk on I-joists until fully fastened and braced, or serious injuries can result.



Never stack building materials over unbraced I-joists. Once I-joists with concentrated loads from building materials.



PRODUCT WARRANTY

Chantiers Chibougamma guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furthermore, Chantiers Chibougamma warrants that our products, when utilized in accordance with our handling and installation instructions, will meet or exceed our specifications for the lifetime of the structure.

CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

3a) I-JOIST CANTILEVER DETAIL FOR BALCONIES (No Wall Load)



CAUTION: Cantilevers formed this way must be carefully detailed to prevent moisture intrusion into the structure and potential decay of untreated I-joist sections.

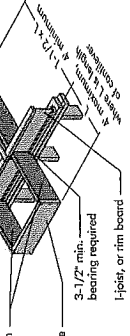
3b) LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load)

Full depth backer block with 7/8" gap between block and top flange of I-joist. See detail 1c. Nail with 2 rows of 5 nails at 6" o.c. and clinch.

2x8 min. Nail to backer block and joist with 2 rows of 3" nails at 6" o.c. and clinch. (Cantilever nails may be used to attach backer block if length of nail is sufficient to allow clinching.)

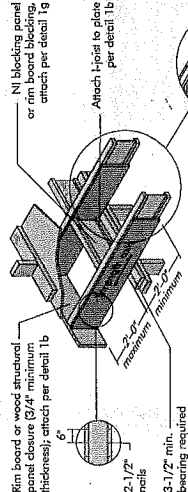
Cantilever extension supporting uniform floor loads only

Lumber or wood structural panel closure
Note: This detail is applicable to cantilevers supporting a maximum specified uniform live load of 60 psf.



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

4a) Method 1 — SHEATHING REINFORCEMENT ONE SIDE

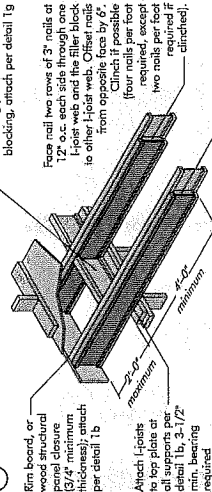


Method 2 — SHEATHING REINFORCEMENT TWO SIDES

- Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.
- Use nailing pattern shown for Method 1 with opposite face nailing a third of 3".

Note: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c. top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity.

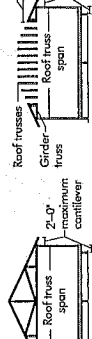
4b) Alternate Method 2 — DOUBLE I-JOIST



Block I-joists together with filler blocks for the full length of the reinforcement. For I-joist flange widths greater than 3 inches place an additional row of 3" nails along the centerline of the reinforcing panel from each side. Clinch when possible.

FIGURE 4 (continued)

See table below for NI reinforcement requirements at cantilever.



For hip roofs with the jack trusses running parallel to the cantilevered floor joists, the I-joist reinforcement requirements for a span of 26 ft. shall be permitted to be used.

CANTILEVER REINFORCEMENT METHODS ALLOWED

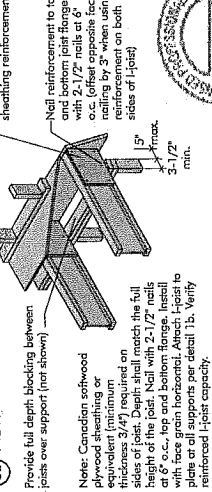
JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft)	ROOF LOADING UNFACTORED									
		LL = 30 psf DL = 15 psf	LL = 40 psf DL = 15 psf	LL = 50 psf DL = 15 psf	LL = 60 psf DL = 15 psf	LL = 70 psf DL = 15 psf	LL = 80 psf DL = 15 psf	LL = 90 psf DL = 15 psf	LL = 100 psf DL = 15 psf	LL = 110 psf DL = 15 psf	LL = 120 psf DL = 15 psf
9 1/2"	12	X	X	X	X	X	X	X	X	X	X
11 7/8"	12	X	X	X	X	X	X	X	X	X	X
14"	12	X	X	X	X	X	X	X	X	X	X
16"	12	X	X	X	X	X	X	X	X	X	X

1. N = No reinforcement required.
2. N = NI reinforced with 3/4" wood structural panel on one side only.
3. X = Try a deeper joist or closer spacing.
4. For larger openings, or multiple 3'-0" width openings spaced less than 6'-0" o.c., additional reinforcement may be required.
5. Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf and a live load deflection limit of L/480. Use 12" o.c. requirements for lesser spacing.

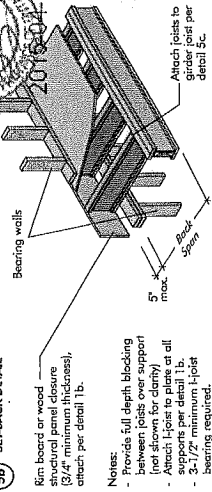
6. For conventional roof construction using a ridge beam, the roof truss span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the roof truss span is equivalent to the distance between the supporting walls as if a truss is used.
7. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

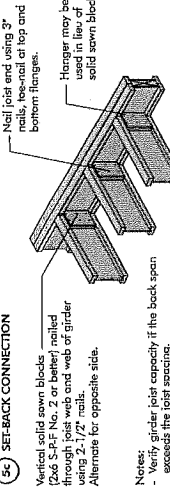
5a) SHEATHING REINFORCEMENT



5b) SET-BACK DETAIL



5c) SET-BACK CONNECTION



Note: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c. top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity.

1. N = No reinforcement required.
2. N = NI reinforced with 3/4" wood structural panel on one side only.
3. X = Try a deeper joist or closer spacing.
4. For larger openings, or multiple 3'-0" width openings spaced less than 6'-0" o.c., additional reinforcement may be required.
5. Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf and a live load deflection limit of L/480. Use 12" o.c. requirements for lesser spacing.

6. For conventional roof construction using a ridge beam, the roof truss span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the roof truss span is equivalent to the distance between the supporting walls as if a truss is used.
7. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	ROOF TRUSS SPAN (ft)	ROOF LOADING UNFACTORED									
		LL = 30 psf DL = 15 psf	LL = 40 psf DL = 15 psf	LL = 50 psf DL = 15 psf	LL = 60 psf DL = 15 psf	LL = 70 psf DL = 15 psf	LL = 80 psf DL = 15 psf	LL = 90 psf DL = 15 psf	LL = 100 psf DL = 15 psf	LL = 110 psf DL = 15 psf	LL = 120 psf DL = 15 psf
9 1/2"	12	X	X	X	X	X	X	X	X	X	X
11 7/8"	12	X	X	X	X	X	X	X	X	X	X
14"	12	X	X	X	X	X	X	X	X	X	X
16"	12	X	X	X	X	X	X	X	X	X	X

1. N = No reinforcement required.
2. N = NI reinforced with 3/4" wood structural panel on one side only.
3. X = Try a deeper joist or closer spacing.
4. For larger openings, or multiple 3'-0" width openings spaced less than 6'-0" o.c., additional reinforcement may be required.
5. Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf and a live load deflection limit of L/480. Use 12" o.c. requirements for lesser spacing.

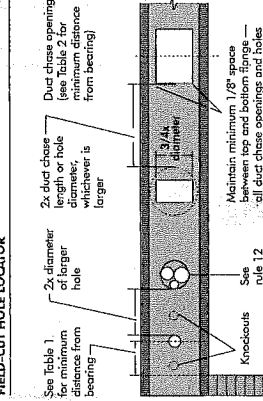
6. For conventional roof construction using a ridge beam, the roof truss span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the roof truss span is equivalent to the distance between the supporting walls as if a truss is used.
7. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

WEB HOLES

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- I-joint top and bottom flanges must NEVER be cut, notched, or otherwise modified.
- Whenever possible, field-cut holes should be centred on the middle of the web.
- The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joint web shall equal the clear distance between the flanges of the I-joint minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joint flange.
- The sides of square holes or long slots of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
- Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole for twice the length of the largest side of the hole. The distance between the edges of rectangular holes shall be at least equal to the sum of the hole widths plus the required edge distance. See Tables 1 and 2, respectively.
- A knockout is not considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a transversely section of a joist. Holes of greater size may be permitted subject to verification.
- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
- All holes and duct chase openings shall be cut in a workman-like manner, in accordance with the restrictions listed above and as illustrated in Figure 7.
- Limit three maximum size holes per span, of which one may be a duct chase opening.
- A group of round holes or approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

FIGURE 7
FIELD-CUT HOLE LOCATOR



A knockout is NOT considered a hole, may be utilized wherever it occurs, and may be ignored for purposes of calculating minimum distances between holes.

Knockouts are pre-cored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are 1-1/2 inches in length. Where possible, it is preferable to use knockouts instead of field-cut holes.



For rectangular holes, avoid over-cutting the corners. Slightly rounding the corners is recommended. Starting the regular hole by drilling a 1-inch hole is recommended. When making the hole, the hole is another good method to minimize damage to the I-joint.

INSTALLING THE GLUED FLOOR SYSTEM

- Wipe any mud, dirt, water, or ice from I-joint flanges before gluing.
- Snap a chalk line across the I-joints four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
- Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
- Lay the first panel with tongue side to the wall, and nail in place. This protects the tongue of the next panel from damage when tapped into place with a block and sledgehammer.
- Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joint. Apply glue in a winding pattern on wide areas, such as double I-joints.
- Apply two lines of glue on I-joints where panel ends but to assure proper gluing of each end.
- After the first row of panels is in place, spread glue in the groove of one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/8 inch) than used on I-joint flanges.
- Top the second row of panels into place, using a block to protect groove edges.
- Stagger and joints in each succeeding row of panels. A 1/8-inch space between all end joints and stagger joints in each row is recommended. (Use a spacer nail or an 2-1/2" common nail to assure accurate and consistent spacing.)
- Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations for fasteners, spacing, and nailing. Use 2" x 4" x 8" nails for 3/4-inch thick or less, and 2-1/2" x 8" or screw-shank nails for thicker panels. Space nails per the table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the glue bond.

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

Minimum Board Width (in.)	Minimum Board Thickness (in.)	Common Nail Size (in.)	Nail Size and Type		Maximum Spacing of Fasteners		
			Common Nail Spiral Nails	Ring-Shood Nails or Screws	Edges	Inter- Supports	
16	5/8	2"	2"	1-3/4"	2"	6"	12"
20	5/8	2"	2"	1-3/4"	2"	6"	12"
24	3/4	2"	2"	1-3/4"	2"	6"	12"

- Fasteners of sheathing and subflooring shall conform to the above table.
- Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown given with the crown parallel to flaming.
- Flooring screws shall not be less than 1/8-inch in diameter.
- Special conditions may impose heavy traffic and concentrated loads that require construction in excess of the minimum shown.
- Use only adhesive conforming to CAN/CGSB-71.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Framing for Floor System, applied in accordance with the manufacturer's recommendations. If OSB panels with sealed surfaces and edges are to be used, use only solvent-based glues; check with panel manufacturer.

Ref: NCC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

IMPORTANT NOTE:
Floor sheathing must be field glued to the I-joint flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joint spans must be verified with your local building code.

TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS
Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

Joist Depth (in.)	Minimum Distance from Inside Face of Joist to Center of Hole (in.)										
	2	3	4	5	6	7	8	9	10	11	12
14	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
16	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
18	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
22	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
24	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
26	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
28	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
30	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
32	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
34	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
36	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
38	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
40	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
42	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
44	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
46	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
48	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
52	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
54	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
56	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
58	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
60	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
62	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
64	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
66	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
68	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
72	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
74	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
76	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
78	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
84	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
86	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
88	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
92	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
94	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
96	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
98	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
100	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

1. Above table may be used for I-joint spacing of 24 inches on centre or less.
2. Distances in this table are based on uniformly loaded joists.
3. Distances in this table are based on uniformly loaded joists.

OPTIONAL:

The above table is based on the I-joints used at first maximum span. If the I-joints are placed at less than their full maximum span (see Manufacturer's Literature), the minimum distance from the outside of the hole to the face of any support (S) is given above and may be reduced as follows:

Reduced = $\frac{S}{D}$ SAF

Where:

SAF = Span Adjustment Factor

D = Distance from the inside face of any support to centre of hole, reduced for less-than-maximum span applications (see Manufacturer's Literature).

S = Span Adjustment Factor given in this table.

D = The minimum distance from the inside face of support to hole.

If SAF is greater than 1, use 1 in the above calculation for SAF.

TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS — Simple Span Only

Joist Depth	Joist Spacing	Minimum distance from inside face of joist to center of ceiling (in.)										
		0	30	12	14	16	18	20	22	24		
5 1/2"	22 1/4"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
	22 1/2"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
	22 3/4"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
11 1/8"	22 1/4"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
	22 1/2"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
	22 3/4"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
14"	22 1/4"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
	22 1/2"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
	22 3/4"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
16"	22 1/4"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
	22 1/2"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		
	22 3/4"	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2		

MAXIMUM FLOOR SPANS

MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS SIMPLE AND MULTIPLE SPANS

Joist Depth	Joist Spacing	Multiple spans				
		On center spacing	12'	16'	20'	24'
9 1/2"	N-20	15.1	14.2	13.9	13.5	13.4
	N-40	16.1	15.2	14.8	14.9	15.3
	N-60	16.3	15.4	15.1	15.2	15.5
	N-80	17.3	16.3	15.8	15.9	16.1
	N-100	17.5	16.5	16.0	16.1	16.3
11 7/8"	N-20	16.1	15.0	14.5	14.6	14.8
	N-40	18.1	17.0	16.5	16.6	16.8
	N-60	18.4	17.3	16.7	16.8	17.1
	N-80	19.9	18.3	17.4	17.7	18.1
	N-100	20.2	18.7	17.9	18.1	18.4
14"	N-20	20.4	18.9	18.1	18.2	18.5
	N-40	22.3	20.8	20.0	20.1	20.4
	N-60	22.7	20.9	20.1	20.2	20.5
	N-80	23.6	21.9	21.1	21.2	21.5
	N-100	24.1	22.1	21.3	21.4	21.7
16"	N-20	22.9	20.8	19.9	19.1	19.4
	N-40	24.8	22.6	21.9	22.0	22.3
	N-60	25.3	23.1	22.3	22.4	22.7
	N-80	26.1	23.6	22.8	22.9	23.2
	N-100	26.8	24.1	23.3	23.4	23.7

1. Maximum clear spans applicable to simple-span or continuous-span joists. The ultimate design span is based on a dead load of 15.0 lb/ft. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration of floor vibration and a live load deflection limit of L/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.

2. Spans are based on a composite floor with glued-nail oriented strand board (OSB) sheathing with a minimum thickness of 5/8" (19 mm) for the 9 1/2" joist, 5/8" (19 mm) for the 11 7/8" joist, and 5/8" (19 mm) for the 14" joist. The ultimate load is 3.4 k/ft (24 kN/m) for 24" o.c. joist spacing. The ultimate load is 3.4 k/ft (24 kN/m) for 24" o.c. joist spacing. The ultimate load is 3.4 k/ft (24 kN/m) for 24" o.c. joist spacing. The ultimate load is 3.4 k/ft (24 kN/m) for 24" o.c. joist spacing.

3. Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.

4. Bearing stiffeners are not required when joists are used with the spans and spacings given in this table, except as required for hangers.

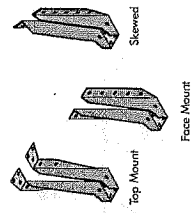
5. This span chart is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.

6. Tables are based on Unit States Design per CAN/CSA O86-09 Standard, and NBS C2010.

7. SI units conversion: 1 inch = 25.4 mm
1 foot = 0.305 m

I-JOIST HANGERS

- Hangers shown illustrate the three most commonly used metal hangers to support I-joists.
- All nailing must meet the hanger manufacturer's recommendations.
- Hangers should be selected based on the joist depth, flange width and load capacity based on the maximum spans.
- Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the I-joist.



WEB STIFFENERS

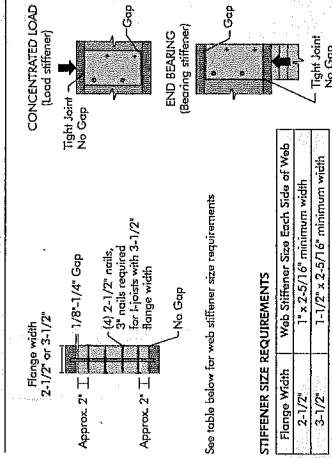
RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the following table. For the I-joist, the bearing stiffener is required between the stiffener and the flange is at the top.
- A bearing stiffener is required when the I-joist is supported in a hanger and the hanger is not laterally braced by the support, the top flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a factored concentrated load greater than 3,300 lbs is applied to the top flange. The load stiffener is required between the stiffener and the flange is at the top.

When a factored concentrated load greater than 3,300 lbs is applied to the top flange, the load stiffener is required between the stiffener and the flange is at the top. The load stiffener is required between the stiffener and the flange is at the top. The load stiffener is required between the stiffener and the flange is at the top.

SI units conversion: 1 inch = 25.4 mm

WEB STIFFENER INSTALLATION DETAILS



STIFFENER SIZE REQUIREMENTS

Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

See table below for web stiffener size requirements

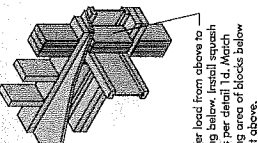
NORDIC I-JOIST SERIES

Joist Depth	Joist Spacing	20' spans	24' spans	28' spans	32' spans	36' spans	40' spans
N-20	15.1	14.2	13.9	13.5	13.4	13.4	13.4
N-40	16.1	15.2	14.8	14.9	15.3	15.3	15.3
N-60	16.3	15.4	15.1	15.2	15.5	15.5	15.5
N-80	17.3	16.3	15.8	15.9	16.1	16.1	16.1
N-100	17.5	16.5	16.0	16.1	16.3	16.3	16.3

Charmies Chibougama Ltd. harvests its own trees, which enables Nordic products to adhere to strict quality control procedures throughout the manufacturing process. Every phase of the operation, from the selection of the finished product, reflects our commitment to quality.

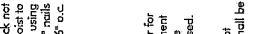
Nordic Engineered Wood I-joists use only finger-jointed black spruce (Picea canadensis) lumber in their flanges, ensuring consistent quality superior structural performance and longer span carrying capacity.

1f



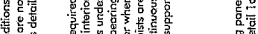
Transfer load from above to bearing below. A stiffener is shown supporting a load from above, transferring it to the bearing below.

1g



Use single I-joist for loads up to 3,300 plf. A single I-joist is shown supporting a load up to 3,300 plf.

1h



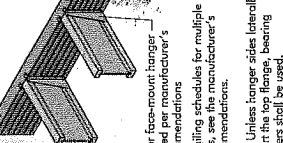
Backer block use if hanger load exceeds 360 lbs. A backer block is shown supporting a hanger load exceeding 360 lbs.

1i



Double I-joist header. A double I-joist header is shown supporting a load.

1j



Top- or face-mount hanger installed per manufacturer's recommendations. A top- or face-mount hanger is shown installed per manufacturer's recommendations.

1k



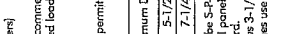
2x plate flush with inside face of wall or beam. A 2x plate is shown flush with the inside face of the wall or beam.

1l



Do not bevel-cut joist beyond inside face of wall. A joist is shown not being bevel-cut beyond the inside face of the wall.

1m



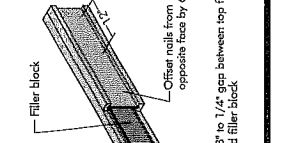
Multiple I-joist header with full depth filler block shown. A multiple I-joist header is shown with a full depth filler block.

1n



Backer block attached per detail 1b. A backer block is shown attached per detail 1b.

1p

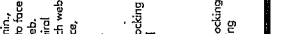


- Support back of joist web during nailing to prevent damage to web/flange connection.
- Leave a 1/8" to 1/4" gap between top of filler block and bottom of top I-joist flange.
- Filler block is required between joists for full length of span.
- Nail joists together with two rows of 3" nails at 12 inches o.c. (ditching when possible) on each side of the double I-joist. Total of four nails per foot required. If nails can be ditched, only two nails per foot are required.
- The minimum factored load that may be applied to the side of the double joist using this detail is 860 lb/ft. Verify double I-joist capacity.

FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

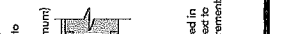
Flange Size	Joist Depth	Block Size	Filler
2-1/2" x 1-1/2"	9 1/2"	2-1/8" x 6"	2-1/8" x 6"
3-1/2" x 1-1/2"	11 7/8"	2-1/8" x 8"	2-1/8" x 8"
4-1/2" x 1-1/2"	14"	2-1/8" x 10"	2-1/8" x 10"
5-1/2" x 1-1/2"	16"	2-1/8" x 12"	2-1/8" x 12"
6-1/2" x 1-1/2"	18"	3" x 6"	3" x 6"
7-1/2" x 1-1/2"	20"	3" x 8"	3" x 8"
8-1/2" x 1-1/2"	22"	3" x 10"	3" x 10"
9-1/2" x 1-1/2"	24"	3" x 12"	3" x 12"
10-1/2" x 1-1/2"	26"	3" x 14"	3" x 14"
11-1/2" x 1-1/2"	28"	3" x 16"	3" x 16"

1q



Lumber 2x4 min. extend block to face of adjacent web. A 2x4 lumber piece is shown extending to the face of the adjacent web.

1r



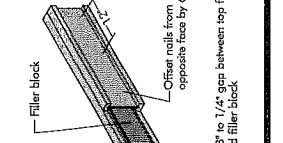
One 2-1/2" nail at top and bottom flange. A 2-1/2" nail is shown at the top and bottom flange.

1s



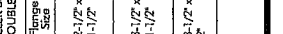
Backer block required (both sides for face-mount hangers). A backer block is shown required on both sides for face-mount hangers.

1t



Top- or face-mount hanger installed per manufacturer's recommendations. A top- or face-mount hanger is shown installed per manufacturer's recommendations.

1u



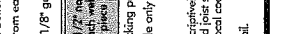
Multiple I-joist header with full depth filler block shown. A multiple I-joist header is shown with a full depth filler block.

1v



Do not bevel-cut joist beyond inside face of wall. A joist is shown not being bevel-cut beyond the inside face of the wall.

1w



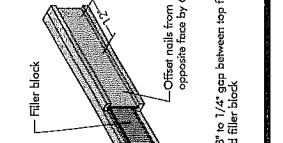
Backer block attached per detail 1b. A backer block is shown attached per detail 1b.

1x



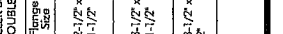
2x plate flush with inside face of wall or beam. A 2x plate is shown flush with the inside face of the wall or beam.

1y



Multiple I-joist header with full depth filler block shown. A multiple I-joist header is shown with a full depth filler block.

1z



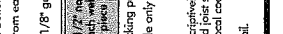
Do not bevel-cut joist beyond inside face of wall. A joist is shown not being bevel-cut beyond the inside face of the wall.

1aa



Backer block attached per detail 1b. A backer block is shown attached per detail 1b.

1ab



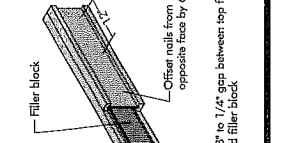
2x plate flush with inside face of wall or beam. A 2x plate is shown flush with the inside face of the wall or beam.

1ac



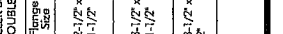
Multiple I-joist header with full depth filler block shown. A multiple I-joist header is shown with a full depth filler block.

1ad



Do not bevel-cut joist beyond inside face of wall. A joist is shown not being bevel-cut beyond the inside face of the wall.

1ae



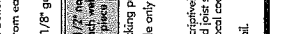
Backer block attached per detail 1b. A backer block is shown attached per detail 1b.

1af



2x plate flush with inside face of wall or beam. A 2x plate is shown flush with the inside face of the wall or beam.

1ag



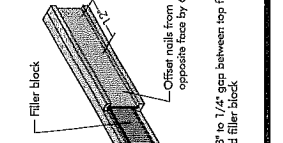
Multiple I-joist header with full depth filler block shown. A multiple I-joist header is shown with a full depth filler block.

1ah



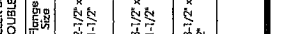
Do not bevel-cut joist beyond inside face of wall. A joist is shown not being bevel-cut beyond the inside face of the wall.

1ai



Backer block attached per detail 1b. A backer block is shown attached per detail 1b.

1aj



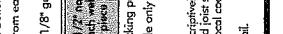
2x plate flush with inside face of wall or beam. A 2x plate is shown flush with the inside face of the wall or beam.

1ak



Multiple I-joist header with full depth filler block shown. A multiple I-joist header is shown with a full depth filler block.

1al



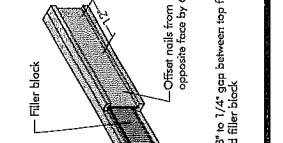
Do not bevel-cut joist beyond inside face of wall. A joist is shown not being bevel-cut beyond the inside face of the wall.

1am



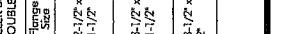
Backer block attached per detail 1b. A backer block is shown attached per detail 1b.

1an



2x plate flush with inside face of wall or beam. A 2x plate is shown flush with the inside face of the wall or beam.

1ao



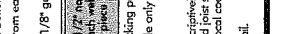
Multiple I-joist header with full depth filler block shown. A multiple I-joist header is shown with a full depth filler block.

1ap



Do not bevel-cut joist beyond inside face of wall. A joist is shown not being bevel-cut beyond the inside face of the wall.

1aq



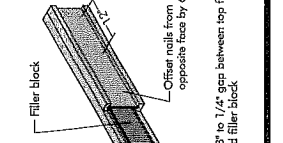
Backer block attached per detail 1b. A backer block is shown attached per detail 1b.

1ar



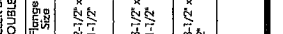
2x plate flush with inside face of wall or beam. A 2x plate is shown flush with the inside face of the wall or beam.

1as



Multiple I-joist header with full depth filler block shown. A multiple I-joist header is shown with a full depth filler block.

1at



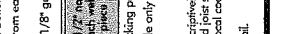
Do not bevel-cut joist beyond inside face of wall. A joist is shown not being bevel-cut beyond the inside face of the wall.

1au



Backer block attached per detail 1b. A backer block is shown attached per detail 1b.

1av



2x plate flush with inside face of wall or beam. A 2x plate is shown flush with the inside face of the wall or beam.

1aw



Multiple