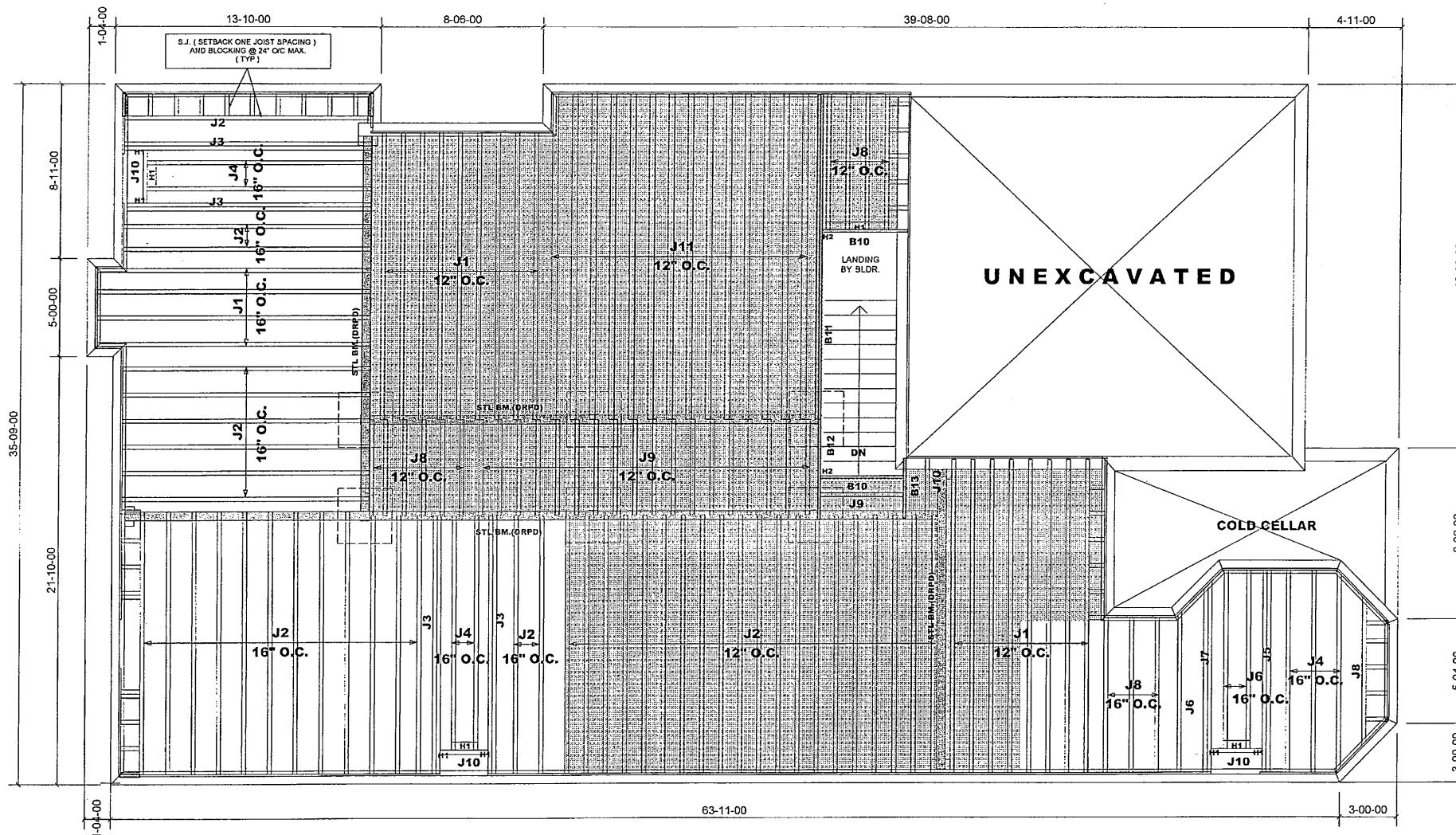




**S42 - 1B ELEV. "A"
(NON-LOFT)
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND	
	CERAMIC TILES

Do not scale - refer to architectural
plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	43
J3	14-00-00	9 1/2" NI-40x	2	8
J4	12-00-00	9 1/2" NI-40x	1	7
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	3
J7	10-00-00	9 1/2" NI-40x	2	2
J8	8-00-00	9 1/2" NI-40x	1	8
J8	6-00-00	9 1/2" NI-40x	1	6
J9	6-00-00	9 1/2" NI-40x	1	19
J10	4-00-00	9 1/2" NI-40x	1	4
J11	18-00-00	9 1/2" NI-80	1	14
B11	18-00-00	VERSALAM-10 2.0E	2	2
B10	6-00-00	VERSALAM-10 2.0E	1	2
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 - IUS2.56/9.5 (FM)
H2 - HUS1.81/10 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side
of each joists under interior load bearing walls

Multiple squash blocks are required under
concentrated loads.

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

T.1505021 - T.1505026

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.

Salesperson: Mario.

File: 287865(248697)

Project: Green Valley Estates East

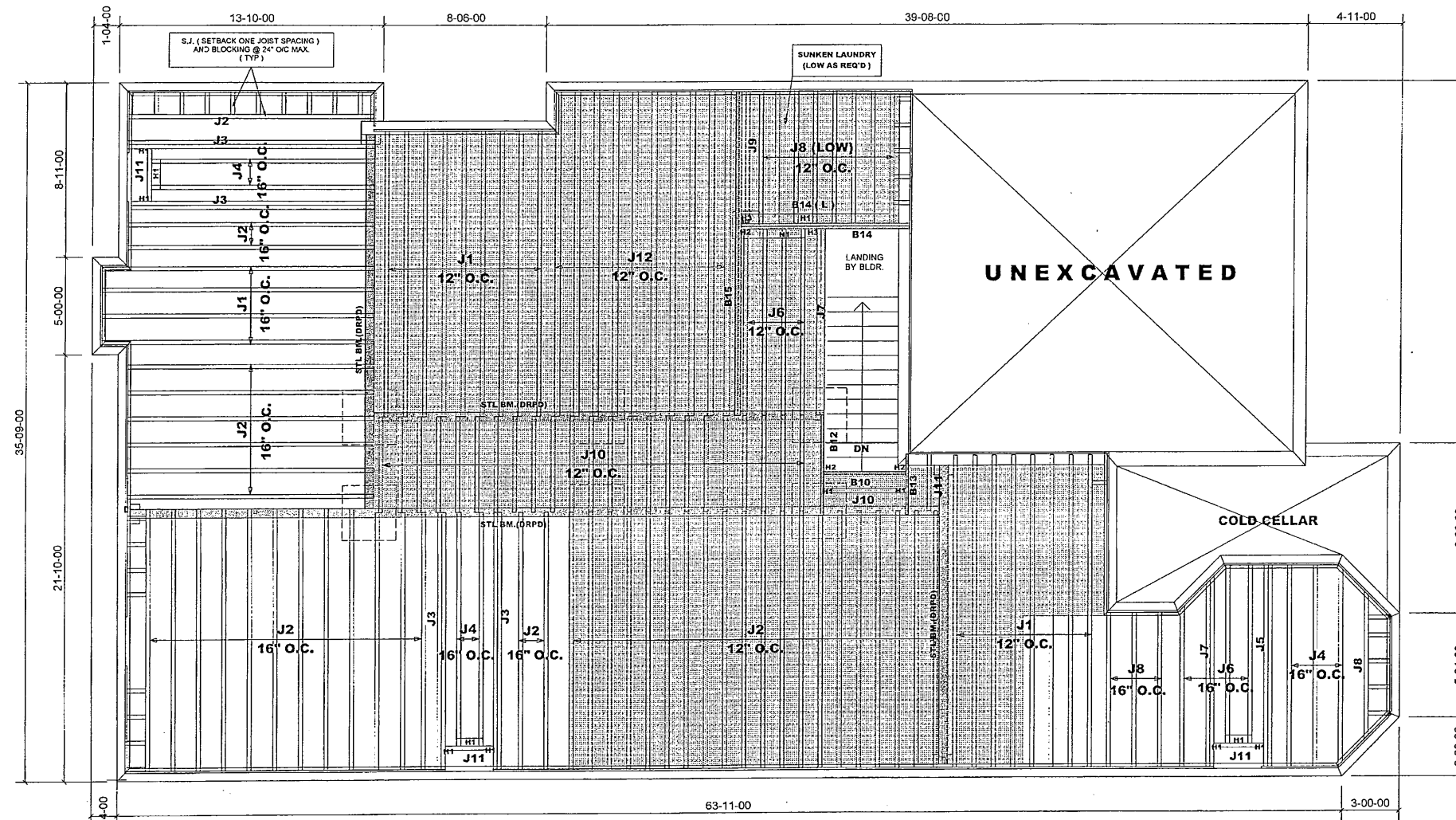
Date: Sept. 9, 2017

Sheet: 1 of 18

Maple, Ontario

Tamarack Lumber

Site Copy



**S42 - 1B ELEV. " A " (NON-LOFT)
SUNKEN LAUNDRY COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND	
	CERAMIC TILES

Do not scale - refer to architectural plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16'-00"-00	9 1/2" NI-40x	1	21
J2	14'-00"-00	9 1/2" NI-40x	1	43
J3	14'-00"-00	9 1/2" NI-40x	2	8
J4	12'-00"-00	9 1/2" NI-40x	1	7
J5	12'-00"-00	9 1/2" NI-40x	2	2
J6	10'-00"-00	9 1/2" NI-40x	1	7
J7	10'-00"-00	9 1/2" NI-40x	2	4
J8	8'-00"-00	9 1/2" NI-40x	1	12
J9	8'-00"-00	9 1/2" NI-40x	2	2
J10	6'-00"-00	9 1/2" NI-40x	1	24
J11	4'-00"-00	9 1/2" NI-40x	1	4
J12	18'-00"-00	9 1/2" NI-80	1	10
B15	18'-00"-00	VERSALAM-10 2.0E	2	2
B14	10'-00"-00	VERSALAM-10 2.0E	1	1
B14 (L)	10'-00"-00	VERSALAM-10 2.0E	1	1
B10	6'-00"-00	VERSALAM-10 2.0E	1	1
B12	6'-00"-00	VERSALAM-10 2.0E	1	1
B13	4'-00"-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.
 H1 ----- IUS2.56/9.5 (FM)
 H2 ----- HUS1.81/10 (FM)
 H3 ----- HU310-2 (FM)

NOTE :
 TM - Top Mount Hangers
 FM - Face Mount Hanger
 APP - As Per Plan
 SBO - Beam By Others

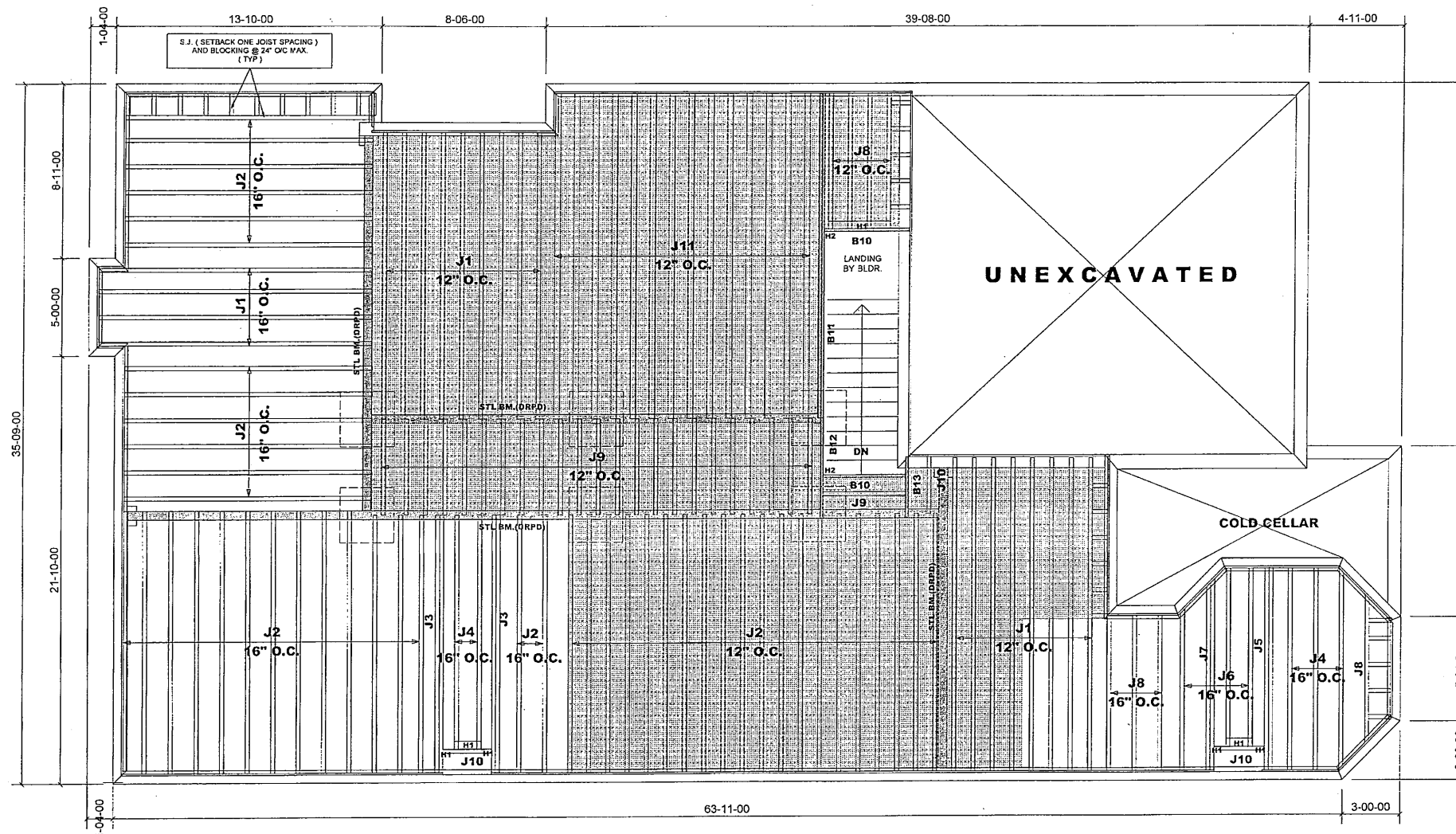
SUBFLOOR - 5/8" NAILED & GLUED

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

1 - 2X6 SPF#2 squash block req'd on one side of each joists under interior load bearing walls

Multiple squash blocks are required under concentrated loads.

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



**S42 - 1B ELEV. " A " (NON-LOFT)
W.O.B. COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND	
	CERAMIC TILES

Do not scale - refer to architectural
plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	47
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	5
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	3
J7	10-00-00	9 1/2" NI-40x	2	2
J8	8-00-00	9 1/2" NI-40x	1	8
J9	6-00-00	9 1/2" NI-40x	1	24
J10	4-00-00	9 1/2" NI-40x	1	3
J11	18-00-00	9 1/2" NI-80	1	14
B11	18-00-00	VERSALAM-10 2.0E	2	2
B10	6-00-00	VERSALAM-10 2.0E	1	2
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 ———— US2.56/9.5 (FM)
H2 ———— HUS1.81/10 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side
of each joists under interior load bearing walls

Multiple squash blocks are required under
concentrated loads.

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Mario.
Tamarack Lumber

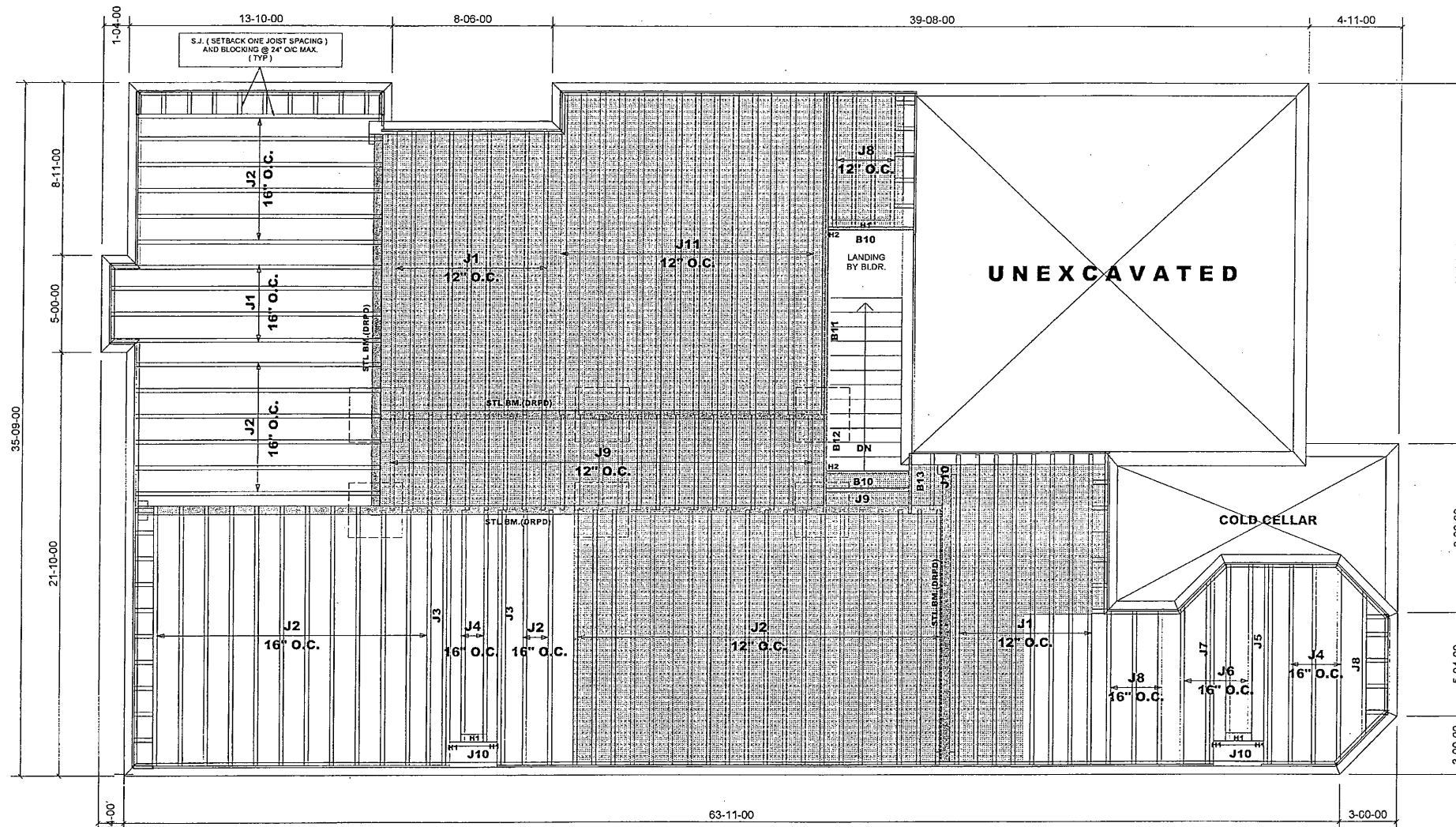
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Project: Green Valley Estates East

Date: Sept. 9, 2017

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**S42 - 1B ELEV. " A " (NON-LOFT)
W.O.D. COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND
CERAMIC TILES

Do not scale - refer to architectural
plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	46
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	5
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	3
J7	10-00-00	9 1/2" NI-40x	2	2
J8	8-00-00	9 1/2" NI-40x	1	8
J9	6-00-00	9 1/2" NI-40x	1	24
J10	4-00-00	9 1/2" NI-40x	1	3
J11	18-00-00	9 1/2" NI-80	1	14
B11	18-00-00	VERSALAM-10 2.0E	2	2
B10	6-00-00	VERSALAM-10 2.0E	1	2
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE:

H1 IUS2.56/9.5 (FM)
H2 HUS1.81/10 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
SBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side
of each joists under interior load bearing walls

Multiple squash blocks are required under
concentrated loads.

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Mario.
Tamarack Lumber

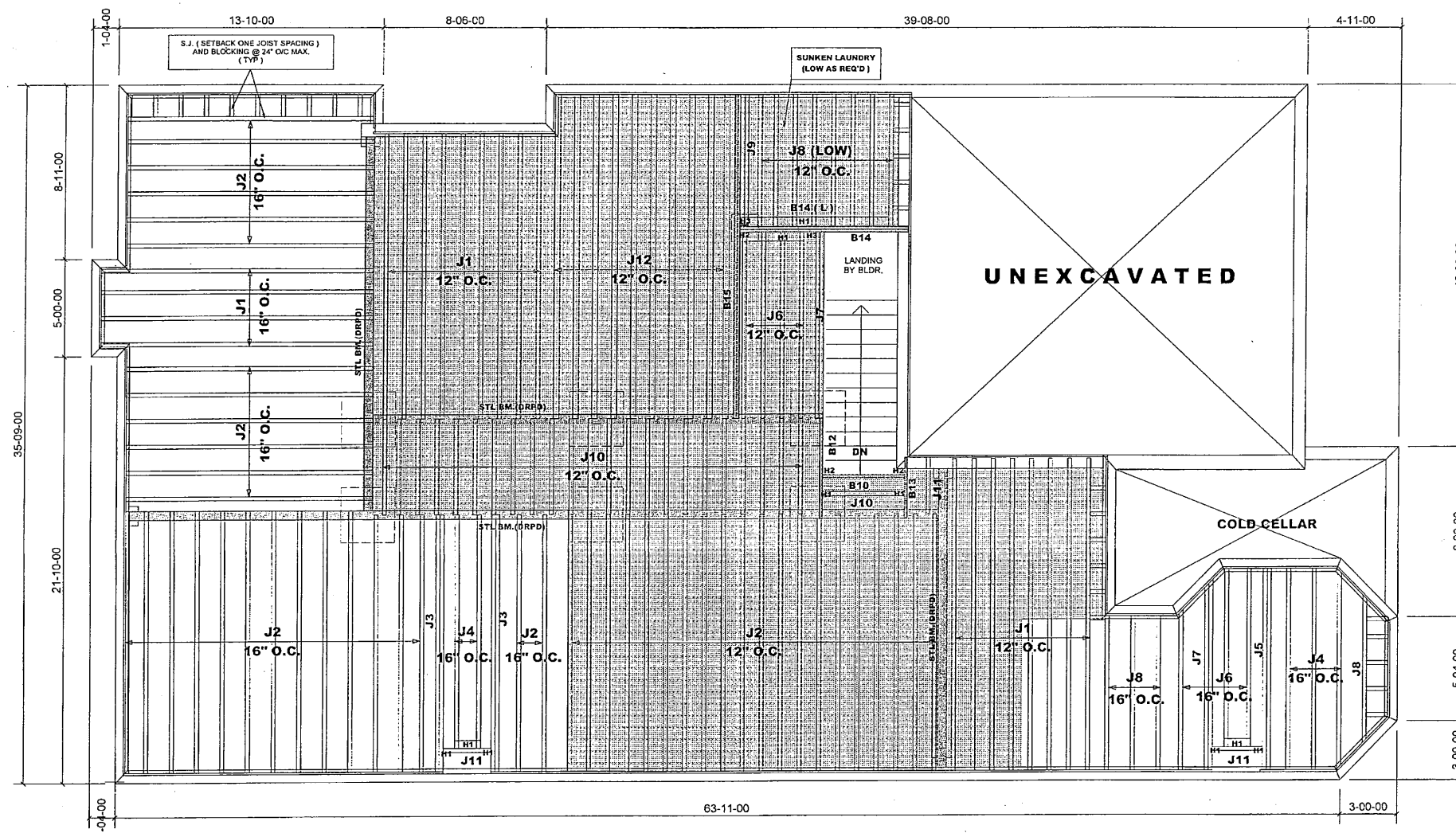
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Project: Green Valley Estates East

Date: Sept. 9, 2017

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Site Copy



S42 - 1B ELEV. " A " (NON-LOFT)
SUNKEN LAUNDRY &
W.O.B. COND.
& UPGRADED REAR

FIRST FLOOR FRAMING

Do not scale - refer to architectural plans for dimensions

HATCH LEGEND	
	CERAMIC TILES

Products				
PlotID	Length	Product	Pfies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	47
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	5
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	7
J7	10-00-00	9 1/2" NI-40x	2	4
J8	8-00-00	9 1/2" NI-40x	1	12
J9	8-00-00	9 1/2" NI-40x	2	2
J10	6-00-00	9 1/2" NI-40x	1	24
J11	4-00-00	9 1/2" NI-40x	1	3
J12	18-00-00	9 1/2" NI-80	1	10
B15	18-00-00	VERSALAM-10 2.0E	2	2
B14	10-00-00	VERSALAM-10 2.0E	1	1
B14 (L)	10-00-00	VERSALAM-10 2.0E	1	1
B10	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 — IUS2.56/9.5 (FM)
H2 — HUS1.81/10 (FM)
H3 — HU310-2 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

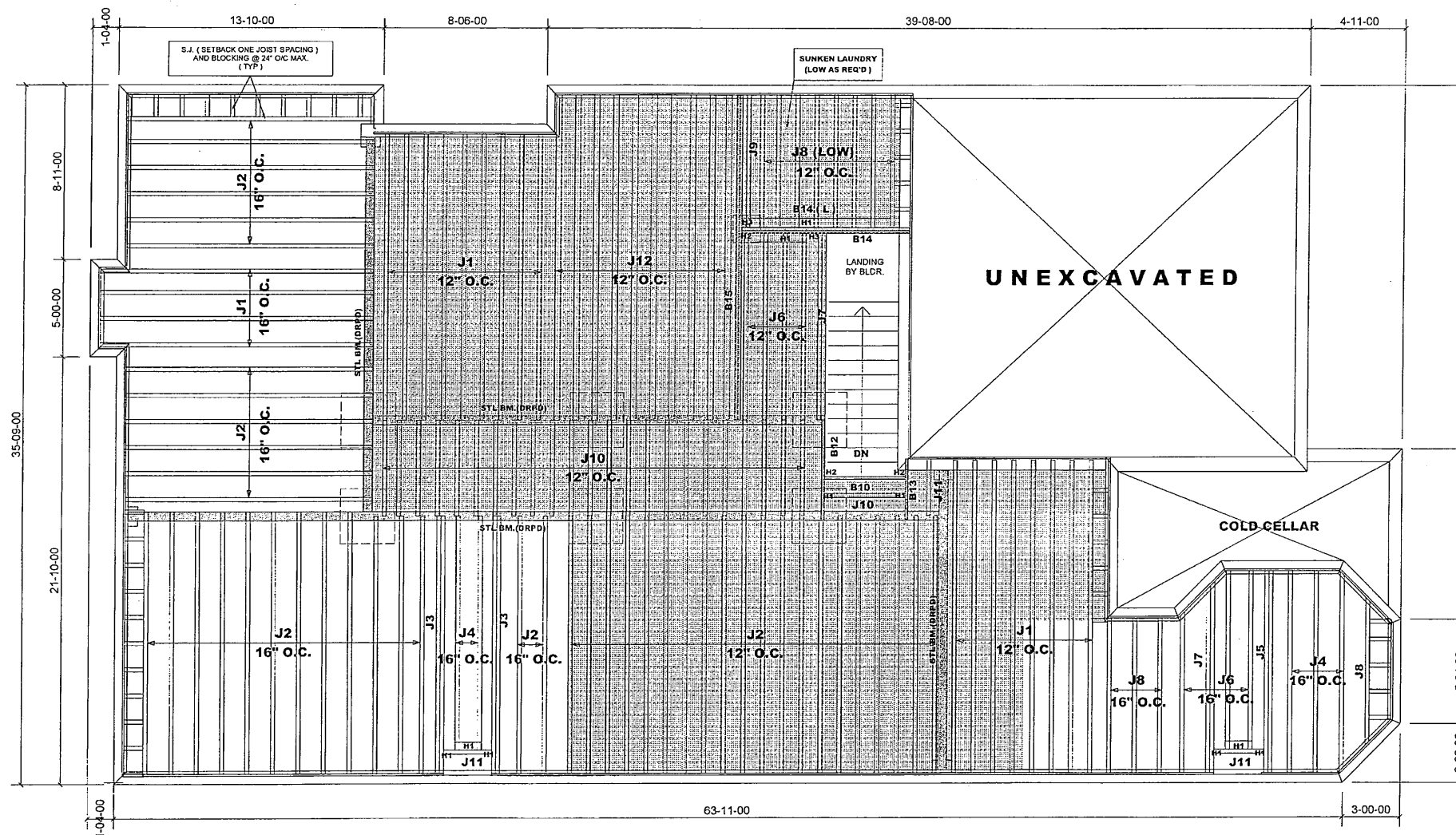
RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side of each joists under interior load bearing walls

Multiple squash blocks are required under concentrated loads.

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



S42 - 1B ELEV. "A" (NON-LOFT)
SUNKEN LAUNDRY &
W.O.D. COND.
& UPGRADED REAR

FIRST FLOOR FRAMING

Do not scale - refer to architectural plans for dimensions

HATCH LEGEND
CERAMIC TILES

PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	46
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	5
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	7
J7	10-00-00	9 1/2" NI-40x	2	4
J8	8-00-00	9 1/2" NI-40x	1	12
J9	8-00-00	9 1/2" NI-40x	2	2
J10	6-00-00	9 1/2" NI-40x	1	24
J11	4-00-00	9 1/2" NI-40x	1	3
J12	18-00-00	9 1/2" NI-80	1	10
B15	18-00-00	VERSALAM-10 2.0E	2	2
B14	10-00-00	VERSALAM-10 2.0E	1	1
B14 (L)	10-00-00	VERSALAM-10 2.0E	1	1
B10	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 ——— IUS2.56/9.5 (FM)
H2 ——— HUS1.81/10 (FM)
H3 ——— HU310-2 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side of each joists under interior load bearing walls

Multiple squash blocks are required under concentrated loads.

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.

Salesperson: Mario.

File: 287865(248697)

Project: Green Valley Estates East

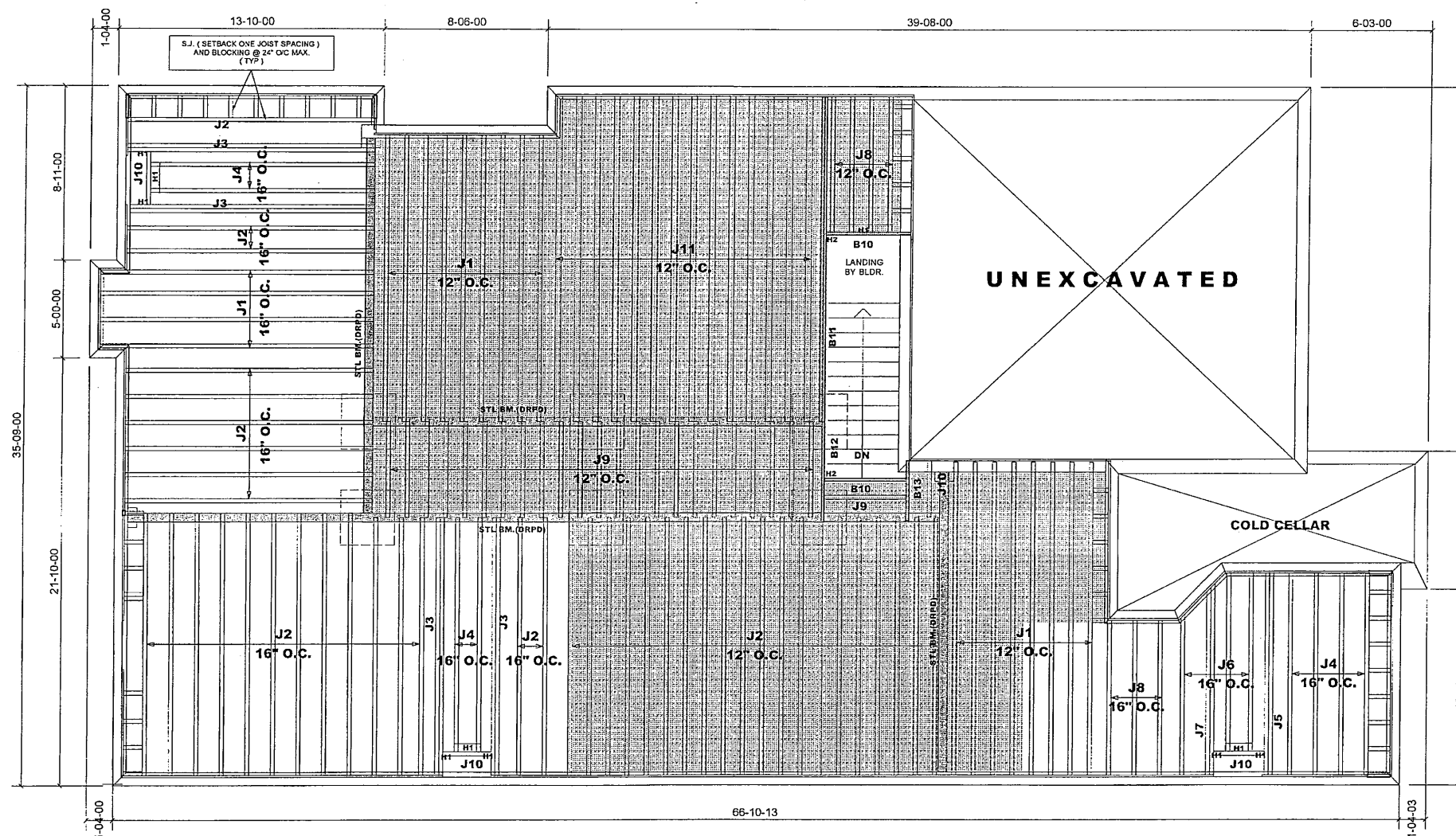
Date: Sept. 9, 2017

Sheet: 6 of 18

Maple, Ontario

Tamarack Lumber

Site Copy



S42 - 1B ELEV. " B "
(NON-LOFT)
& UPGRADED REAR

FIRST FLOOR FRAMING

HATCH LEGEND	
	CERAMIC TILES

Do not scale - refer to architectural plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	43
J3	14-00-00	9 1/2" NI-40x	2	8
J4	12-00-00	9 1/2" NI-40x	1	8
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	3
J7	10-00-00	9 1/2" NI-40x	2	2
J8	8-00-00	9 1/2" NI-40x	1	7
J9	6-00-00	9 1/2" NI-40x	1	24
J10	4-00-00	9 1/2" NI-40x	1	4
J11	18-00-00	9 1/2" NI-80	1	14
B11	18-00-00	VERSALAM-10 2.0E	2	2
B10	6-00-00	VERSALAM-10 2.0E	1	2
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 — IUS2.56/9.5 (FM)
H2 — HUS1.81/10 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side of each joists under interior load bearing walls
Multiple squash blocks are required under concentrated loads.

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

JT: 44997/94450

File: 287865(248697)

Builder: Bayview Wellington Homes

Project: Green Valley Estates East

Location: Bradford

Date: Sept. 9, 2017

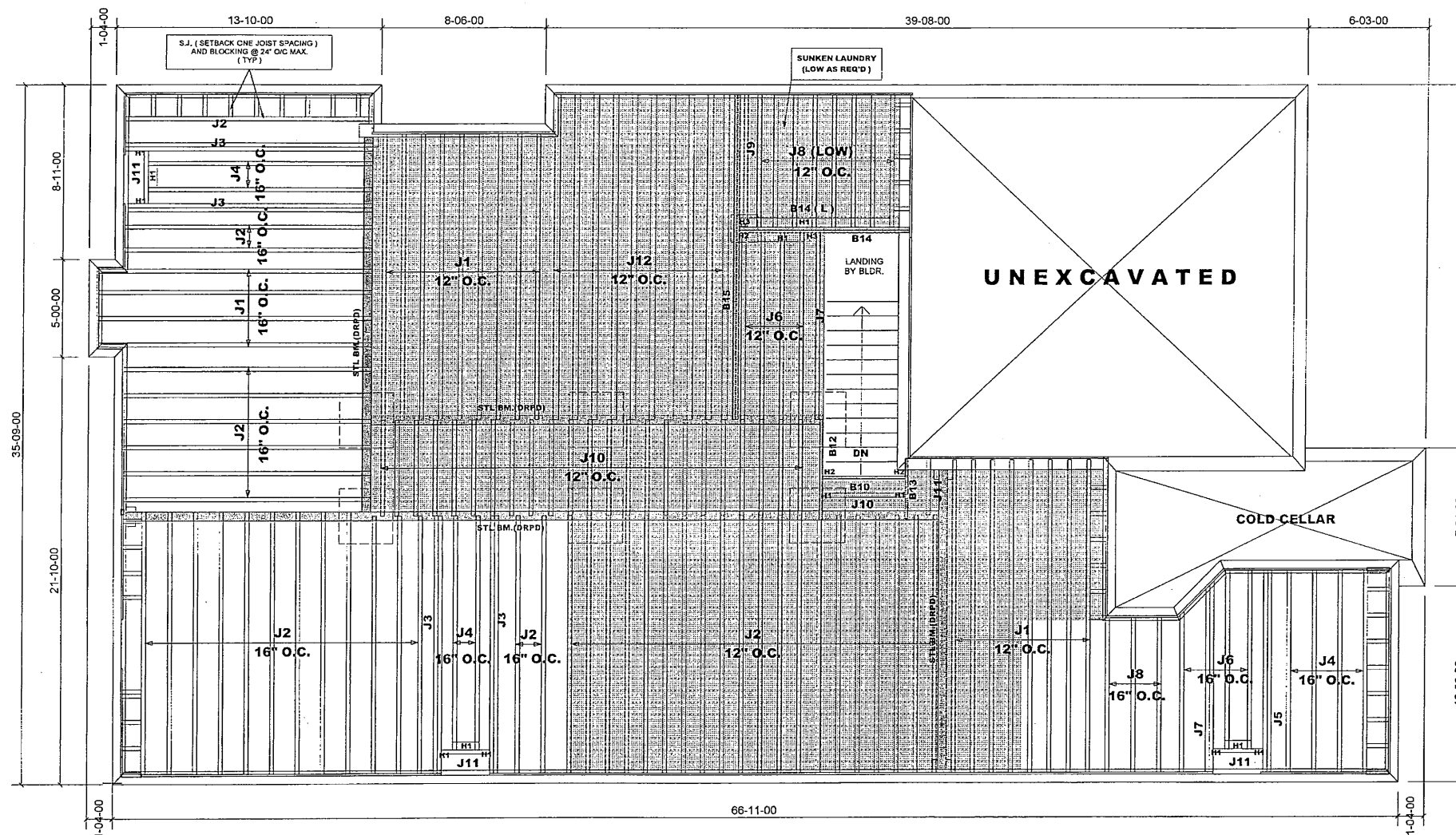
Designer: FC/SG

Sheet: 7 of 18

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Mario.
Tamarack Lumber

Site Copy



**S42-1B ELEV. "B" (NON-LOFT)
SUNKEN LAUNDRY COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND	
	CERAMIC TILES

Do not scale - refer to architectural
plans for dimensions

PlotID	Length	Products		Plies	Net Qty
		Product			
J1	16-00-00	9 1/2" NI-40x		1	21
J2	14-00-00	9 1/2" NI-40x		1	43
J3	14-00-00	9 1/2" NI-40x		2	8
J4	12-00-00	9 1/2" NI-40x		1	8
J5	12-00-00	9 1/2" NI-40x		2	2
J6	10-00-00	9 1/2" NI-40x		1	7
J7	10-00-00	9 1/2" NI-40x		2	4
J8	8-00-00	9 1/2" NI-40x		1	11
J9	8-00-00	9 1/2" NI-40x		2	2
J10	6-00-00	9 1/2" NI-40x		1	24
J11	4-00-00	9 1/2" NI-40x		1	4
J12	18-00-00	9 1/2" NI-80		1	10
B15	18-00-00	VERSALAM-10 2.0E		2	2
B14	10-00-00	VERSALAM-10 2.0E		1	1
B14 (L)	10-00-00	VERSALAM-10 2.0E		1	1
B10	6-00-00	VERSALAM-10 2.0E		1	1
B12	6-00-00	VERSALAM-10 2.0E		1	1
B13	4-00-00	VERSALAM-10 2.0E		1	1

HANGER SCHEDULE.

H1 — IUS2.56/9.5 (FM)
H2 — HUS1.81/10 (FM)
H3 — HU310-2 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side
of each joists under interior load bearing walls

Multiple squash blocks are required under
concentrated loads.

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Mario.
Tamarack Lumber

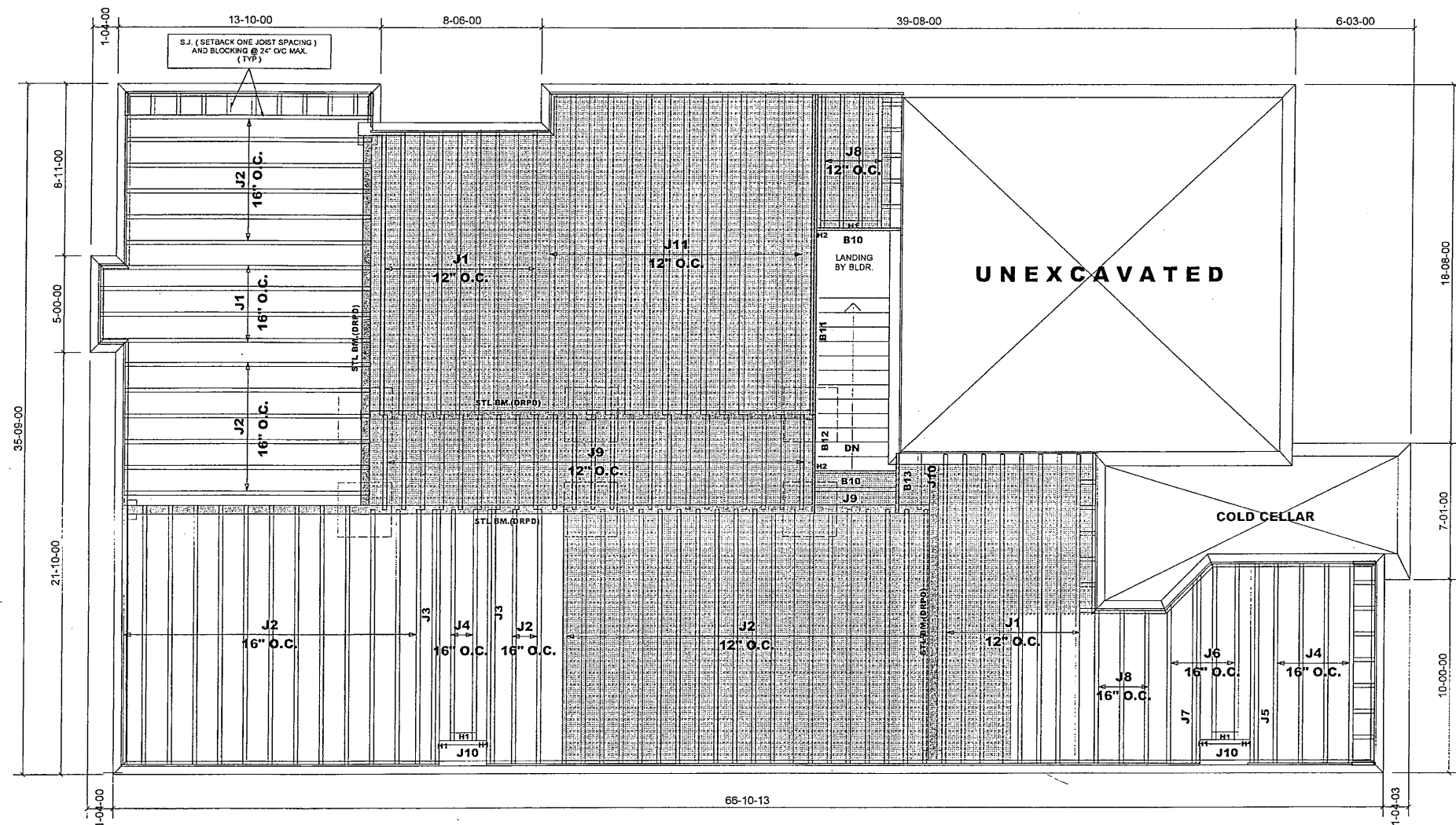
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Project: Green Valley Estates East

Date: Sept. 9, 2017

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Site Copy



**S42-1B ELEV. "B" (NON-LOFT)
W.O.B. COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND	
	CERAMIC TILES

Do not scale - refer to architectural
plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	47
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	6
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	3
J7	10-00-00	9 1/2" NI-40x	2	2
J8	8-00-00	9 1/2" NI-40x	1	7
J9	6-00-00	9 1/2" NI-40x	1	24
J10	4-00-00	9 1/2" NI-40x	1	3
J11	18-00-00	9 1/2" NI-80	1	14
B11	18-00-00	VERSALAM-10 2.0E	2	2
B10	6-00-00	VERSALAM-10 2.0E	1	2
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 - IUS2.56/9.5 (FM)
H2 - HUS1.81/10 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side
of each joists under interior load bearing walls
Multiple squash blocks are required under
concentrated loads.

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Mario.
Tamarack Lumber

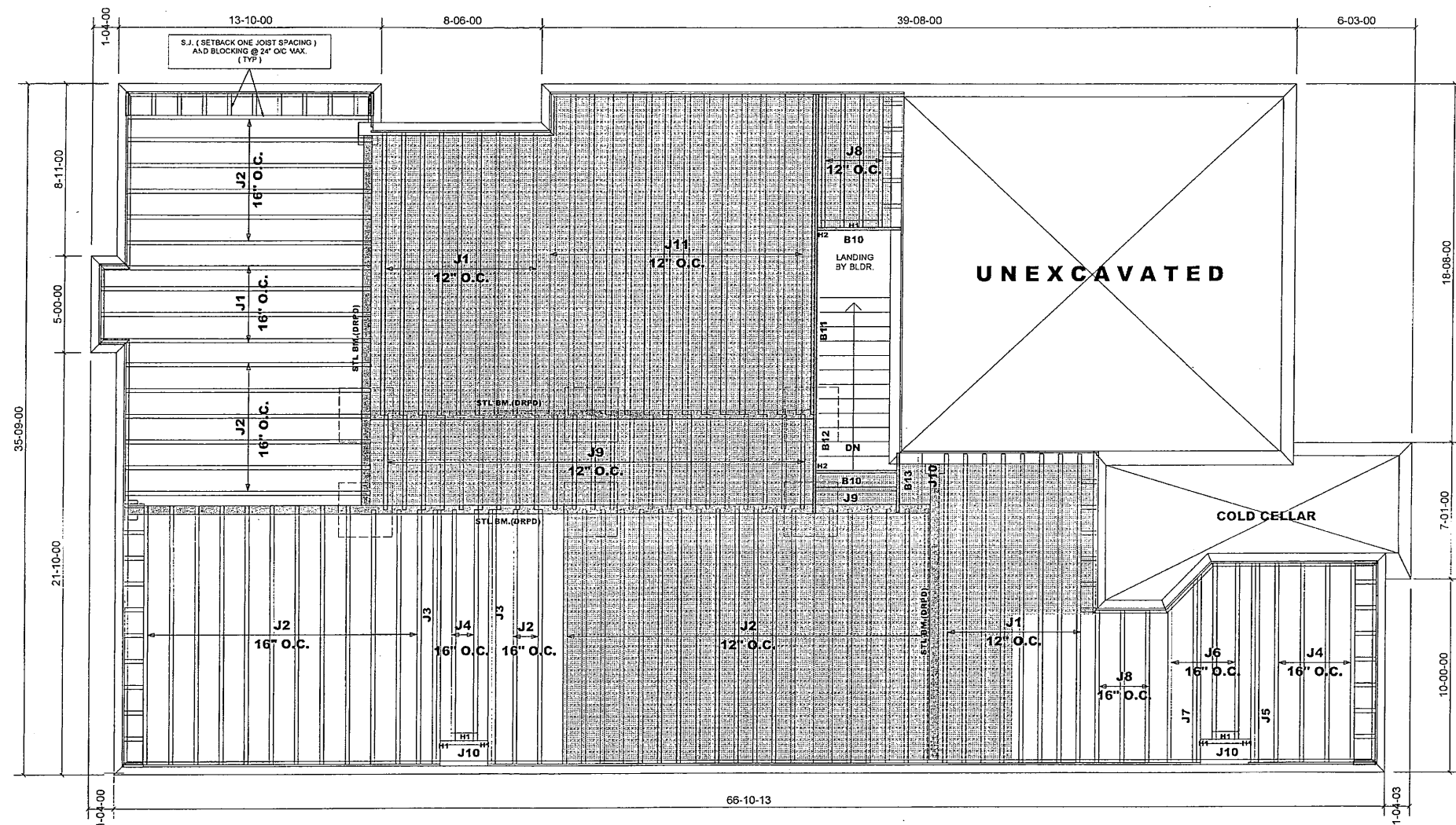
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Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 9 of 18

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**S42 - 1B ELEV. " B " (NON-LOFT)
W.O.D. COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND	
	CERAMIC TILES

Do not scale - refer to architectural
plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	46
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	6
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	3
J7	10-00-00	9 1/2" NI-40x	2	2
J8	8-00-00	9 1/2" NI-40x	1	7
J9	6-00-00	9 1/2" NI-40x	1	24
J10	4-00-00	9 1/2" NI-40x	1	3
J11	18-00-00	9 1/2" NI-80	1	14
B11	18-00-00	VERSALAM-10 2.0E	2	2
B10	6-00-00	VERSALAM-10 2.0E	1	2
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 ----- IUS2.56/9.5 (FM)
H2 ----- HUS1.81/10 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side
of each joists under interior load bearing walls

Multiple squash blocks are required under
concentrated loads.

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.

Salesperson: Mario.

File: 287865(248697)

Project: Green Valley Estates East

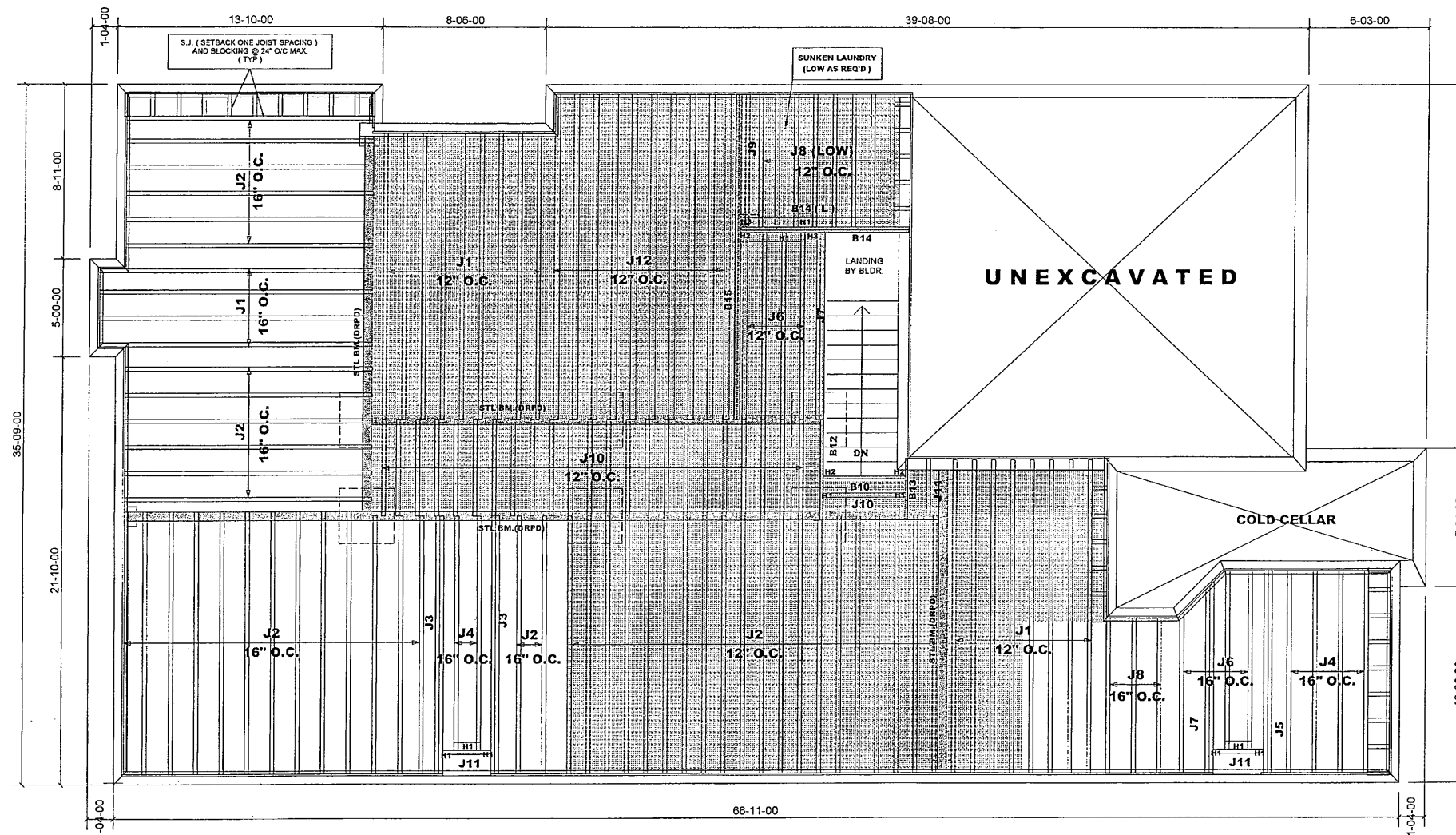
Date: Sept. 9, 2017

Sheet: 10 of 18

Maple, Ontario

Tamarack Lumber

Site Copy



S42 - 1B ELEV. "B" (NON-LOFT)
SUNKEN LAUNDRY
W/ W.O.B COND.
& UPGRADED REAR

FIRST FLOOR FRAMING

Do not scale - refer to architectural
plans for dimensions

HATCH LEGEND	
	CERAMIC TILES

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	47
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	6
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	7
J7	10-00-00	9 1/2" NI-40x	2	4
J8	8-00-00	9 1/2" NI-40x	1	11
J9	8-00-00	9 1/2" NI-40x	2	2
J10	6-00-00	9 1/2" NI-40x	1	24
J11	4-00-00	9 1/2" NI-40x	1	3
J12	18-00-00	9 1/2" NI-80	1	10
B15	18-00-00	VERSALAM-10 2.0E	2	2
B14	10-00-00	VERSALAM-10 2.0E	1	1
B14 (L)	10-00-00	VERSALAM-10 2.0E	1	1
B10	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 — IUS2.56/9.5 (FM)
H2 — HUS1.81/10 (FM)
H3 — HU310-2 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side
of each joists under interior load bearing walls

Multiple squash blocks are required under
concentrated loads.

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.

Salesperson: Mario.

File: 287865(248697)

Project: Green Valley Estates East

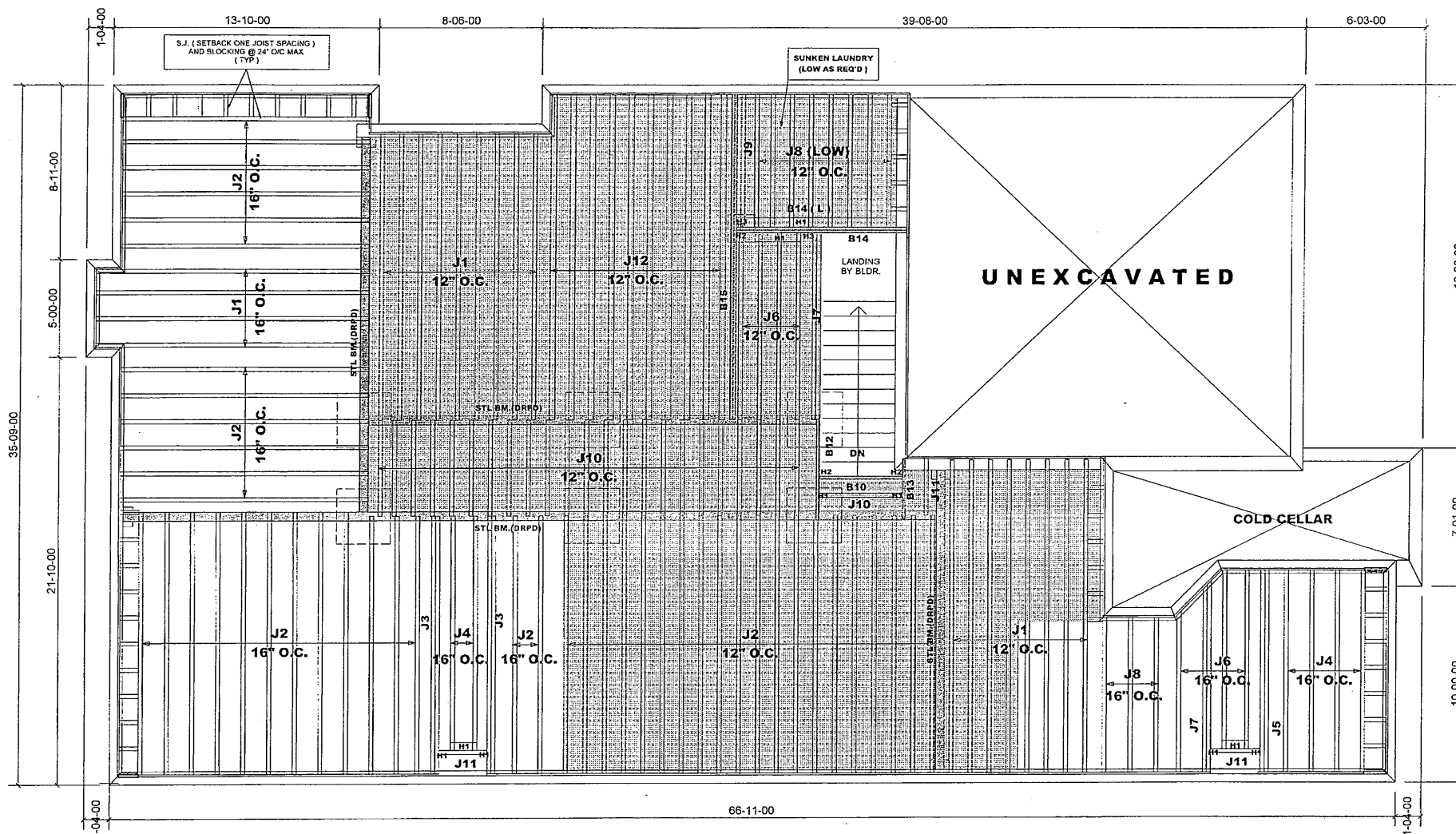
Date: Sept. 9, 2017

Sheet: 11 of 18

Maple, Ontario

Tamarack Lumber

Site Copy



S42 - 1B ELEV. " B " (NON-LOFT)
SUNKEN LAUNDRY
W/ W.O.D. COND.
& UPGRADED REAR

FIRST FLOOR FRAMING

Do not scale - refer to architectural
plans for dimensions

HATCH LEGEND
CERAMIC TILES

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	46
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	6
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	7
J7	10-00-00	9 1/2" NI-40x	2	4
J8	8-00-00	9 1/2" NI-40x	1	11
J9	8-00-00	9 1/2" NI-40x	2	2
J10	6-00-00	9 1/2" NI-40x	1	24
J11	4-00-00	9 1/2" NI-40x	1	3
J12	18-00-00	9 1/2" NI-80	1	10
B15	18-00-00	VERSALAM-10 2.0E	2	2
B14	10-00-00	VERSALAM-10 2.0E	1	1
B14 (L)	10-00-00	VERSALAM-10 2.0E	1	1
B10	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 — IUS2.56/9.5 (FM)
H2 — HUS1.81/10 (FM)
H3 — HU310-2 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side
of each joists under interior load bearing walls

Multiple squash blocks are required under
concentrated loads.

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

JT: 44997/94450

File: 287865(248697)

Builder: Bayview Wellington Homes

Project: Green Valley Estates East

Location: Bradford

Date: Sept. 9, 2017

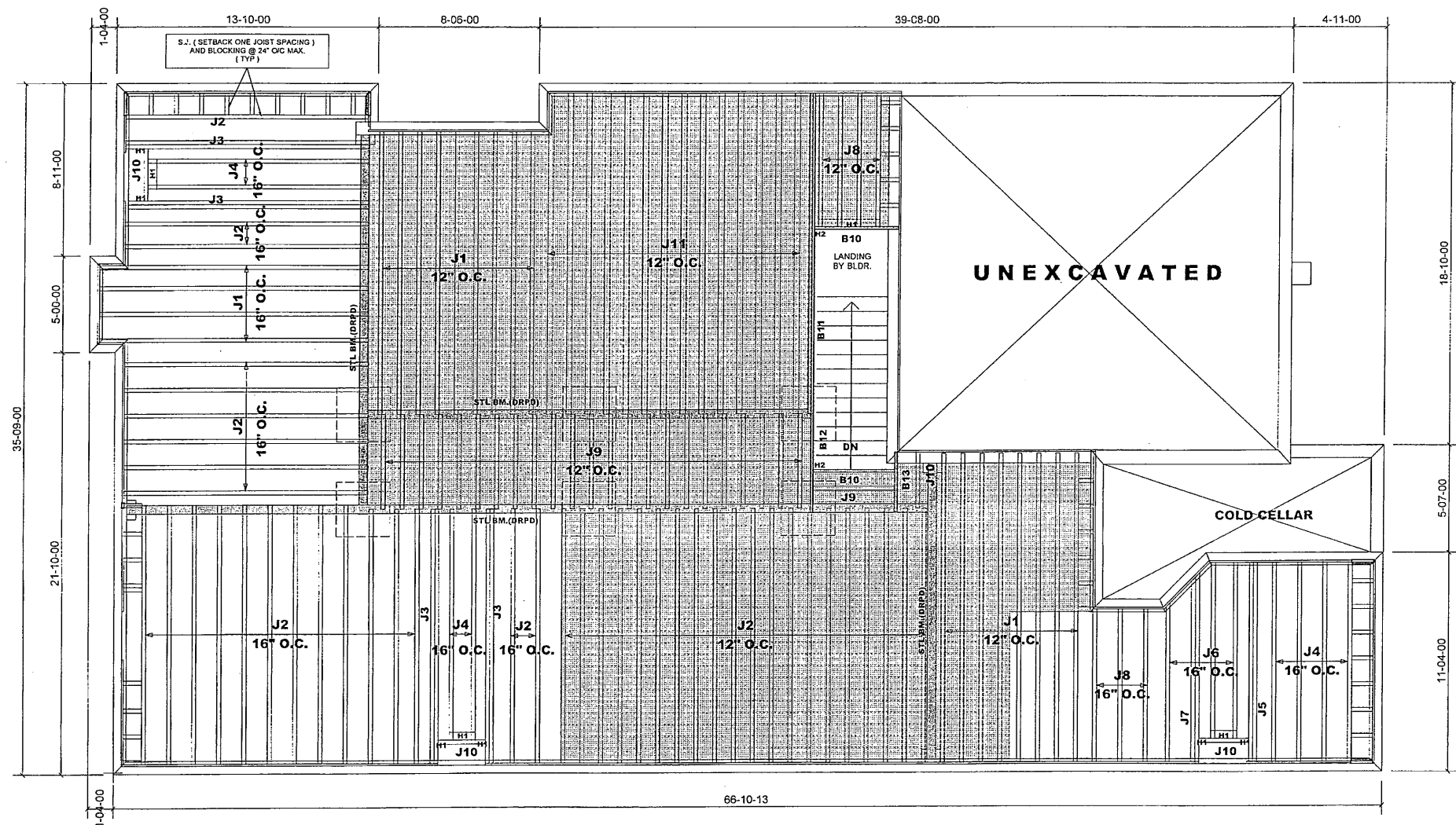
Designer: FC/SG

Sheet: 12 of 18

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Mario.
Tamarack Lumber

Site Copy



S42 - 1B ELEV. " C "
(NON-LOFT)
& UPGRADED REAR

FIRST FLOOR FRAMING

HATCH LEGEND	
	CERAMIC TILES

Do not scale - refer to architectural plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	43
J3	14-00-00	9 1/2" NI-40x	2	8
J4	12-00-00	9 1/2" NI-40x	1	8
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	3
J7	10-00-00	9 1/2" NI-40x	2	2
J8	8-00-00	9 1/2" NI-40x	1	7
J9	6-00-00	9 1/2" NI-40x	1	24
J10	4-00-00	9 1/2" NI-40x	1	4
J11	18-00-00	9 1/2" NI-80	1	14
B11	18-00-00	VERSALAM-10 2.0E	2	2
B10	6-00-00	VERSALAM-10 2.0E	1	2
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE:

H1 — IUS2.56/9.5 (FM)
H2 — HUS1.81/10 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side of each joists under interior load bearing walls

Multiple squash blocks are required under concentrated loads.

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.

Salesperson: Mario.

File: 287865(248697)

Project: Green Valley Estates East

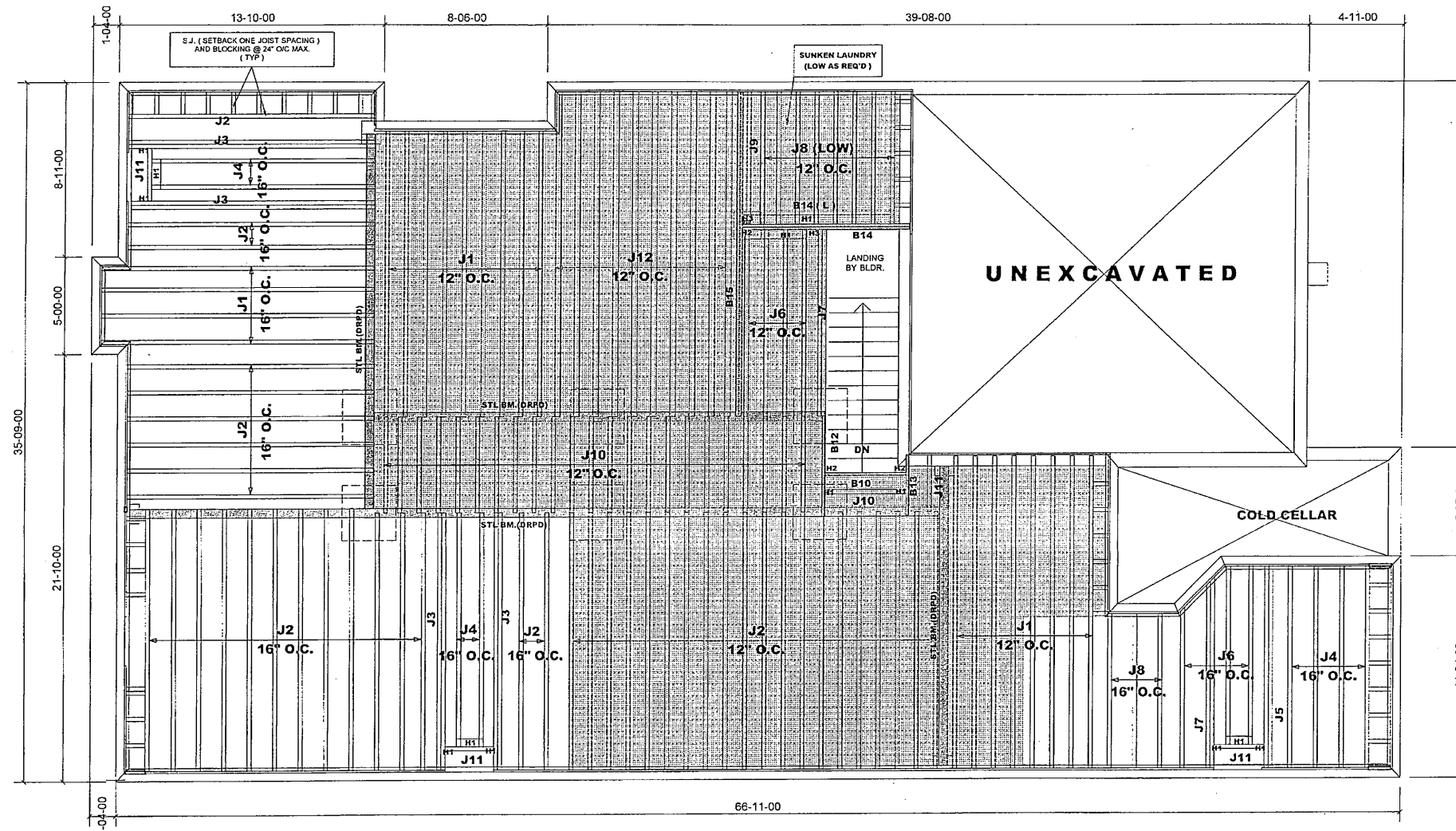
Date: Sept. 9, 2017

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Maple, Ontario

Tamarack Lumber

Site Copy



**S42-1B ELEV. "C" (NON-LOFT)
SUNKEN LAUNDRY COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND
CERAMIC TILES

Do not scale - refer to architectural
plans for dimensions

Products				
PlotID	Length	Product	Piles	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	43
J3	14-00-00	9 1/2" NI-40x	2	8
J4	12-00-00	9 1/2" NI-40x	1	8
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	7
J7	10-00-00	9 1/2" NI-40x	2	4
J8	8-00-00	9 1/2" NI-40x	1	11
J9	8-00-00	9 1/2" NI-40x	2	2
J10	6-00-00	9 1/2" NI-40x	1	24
J11	4-00-00	9 1/2" NI-40x	1	4
J12	18-00-00	9 1/2" NI-80	1	10
B15	18-00-00	VERSALAM-10 2.0E	2	2
B14	10-00-00	VERSALAM-10 2.0E	1	1
B14 (L)	10-00-00	VERSALAM-10 2.0E	1	1
B10	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE:

H1 - IUS2.56/9.5 (FM)
H2 - HUS1.81/10 (FM)
H3 - HU310-2 (FM)

NOTE:

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others
SUBFLOOR - 5/8" NAILED & GLUED
RIMBOARD

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

1 - 2X6 SPF#2 squash block req'd on one side
of each joists under interior load bearing walls

Multiple squash blocks are required under
concentrated loads.

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Mario.
Tamarack Lumber

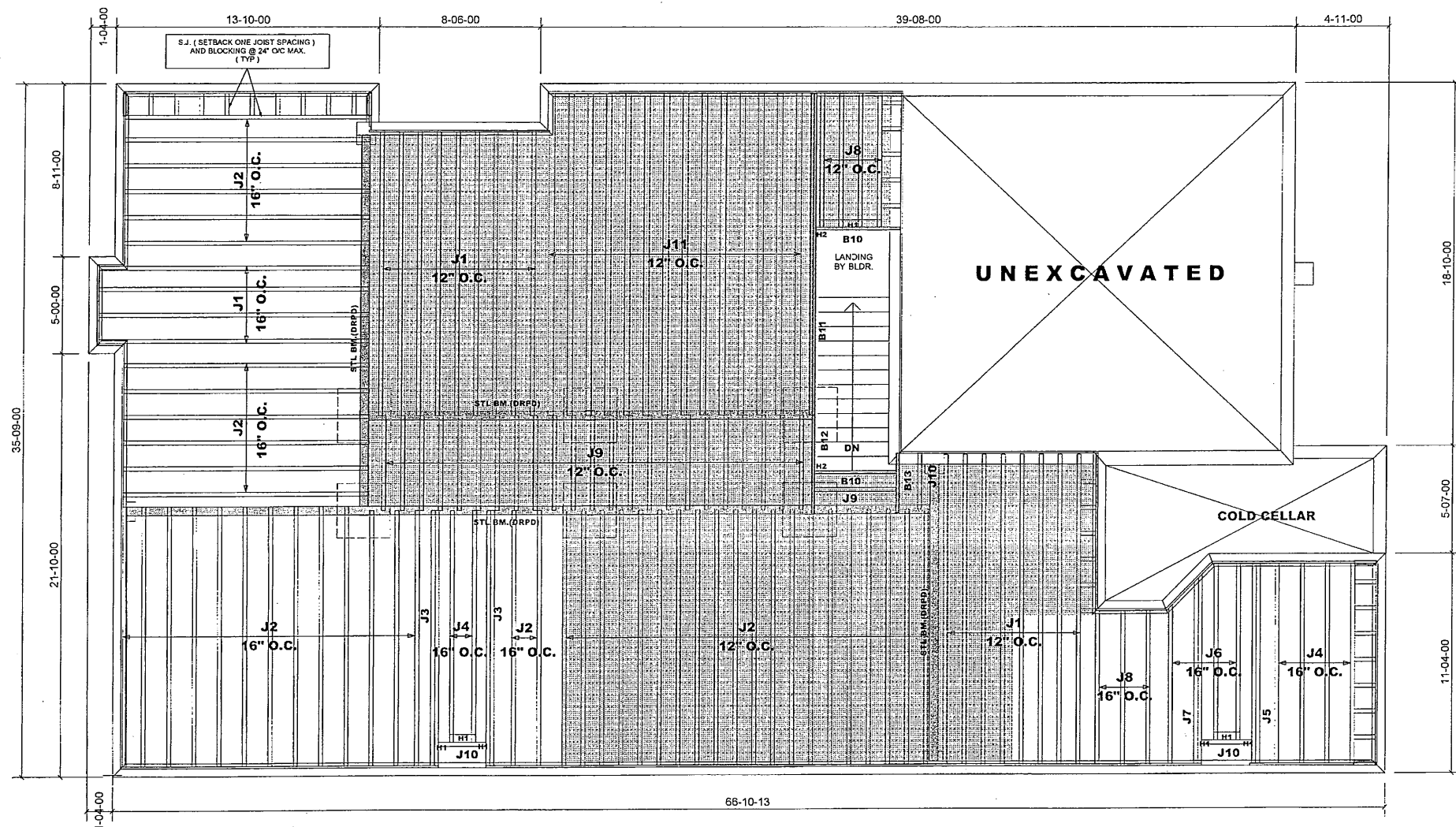
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Project: Green Valley Estates East

Date: Sept. 9, 2017

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Site Copy



**S42 - 1B ELEV. " C " (NON-LOFT)
W.O.B. COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND
CERAMIC TILES

Do not scale - refer to architectural
plans for dimensions

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	47
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	6
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	3
J7	10-00-00	9 1/2" NI-40x	2	2
J8	8-00-00	9 1/2" NI-40x	1	7
J9	6-00-00	9 1/2" NI-40x	1	24
J10	4-00-00	9 1/2" NI-40x	1	3
J11	18-00-00	9 1/2" NI-80	1	14
B11	18-00-00	VERSALAM-10 2.0E	2	2
B10	6-00-00	VERSALAM-10 2.0E	1	2
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 ----- IUS2.56/9.5 (FM)
H2 ----- HUS1.81/10 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
BBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

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Salesperson: Mario.
Tamarack Lumber

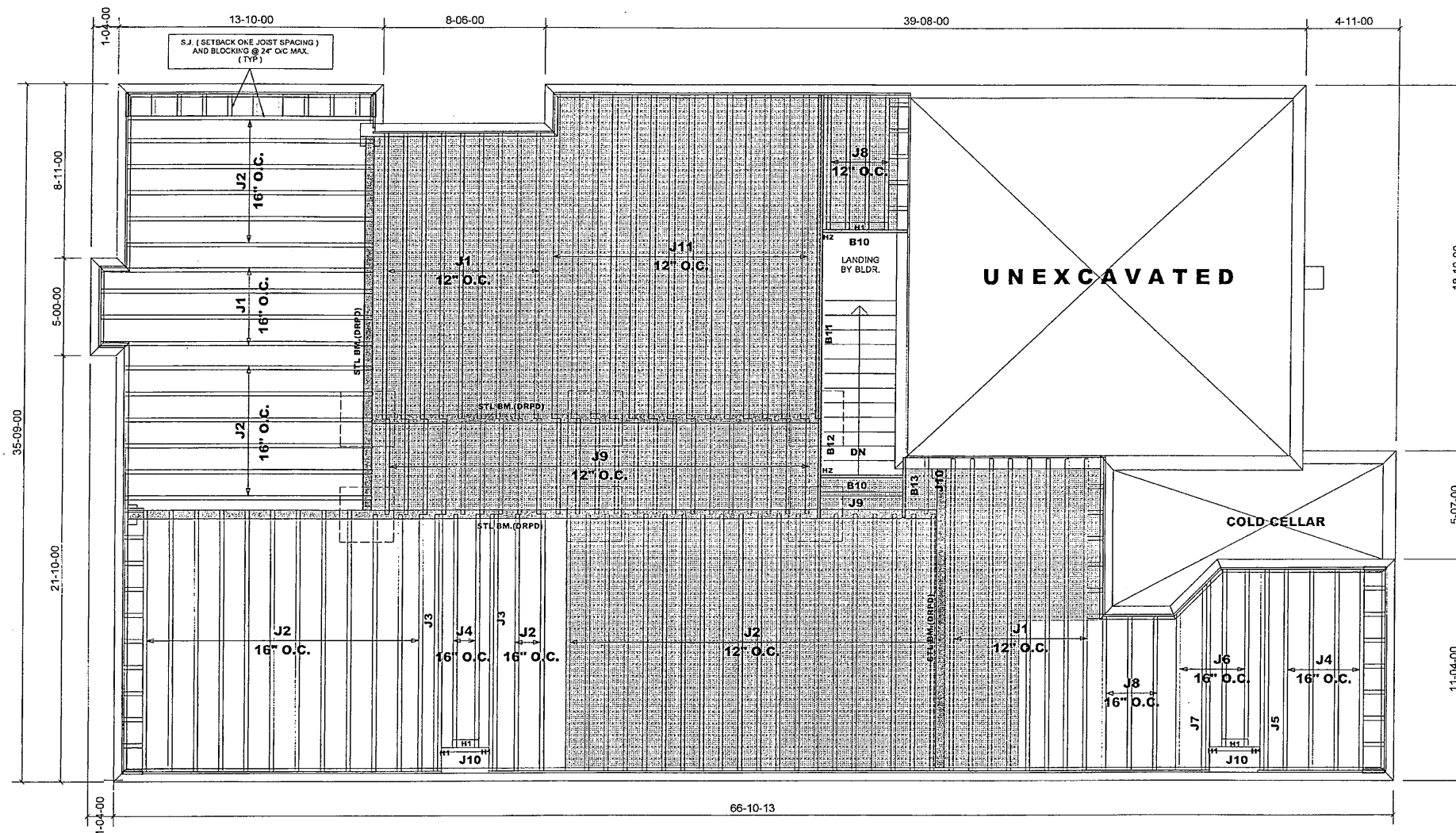
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Project: Green Valley Estates East

Date: Sept. 9, 2017

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Site Copy



**S42 - 1B ELEV. " C " (NON-LOFT)
W.O.D. COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

HATCH LEGEND	
	CERAMIC TILES

Do not scale - refer to architectural
plans for dimensions

Products				
PlottID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
J2	14-00-00	9 1/2" NI-40x	1	46
J3	14-00-00	9 1/2" NI-40x	2	4
J4	12-00-00	9 1/2" NI-40x	1	6
J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	3
J7	10-00-00	9 1/2" NI-40x	2	2
J8	8-00-00	9 1/2" NI-40x	1	7
J9	6-00-00	9 1/2" NI-40x	1	24
J10	4-00-00	9 1/2" NI-40x	1	3
J11	18-00-00	9 1/2" NI-80	1	14
B11	18-00-00	VERSALAM-10 2.0E	2	2
B10	6-00-00	VERSALAM-10 2.0E	1	2
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 ----- IUS2.56/9.5 (FM)
H2 ----- HUS1.81/10 (FM)

NOTE :

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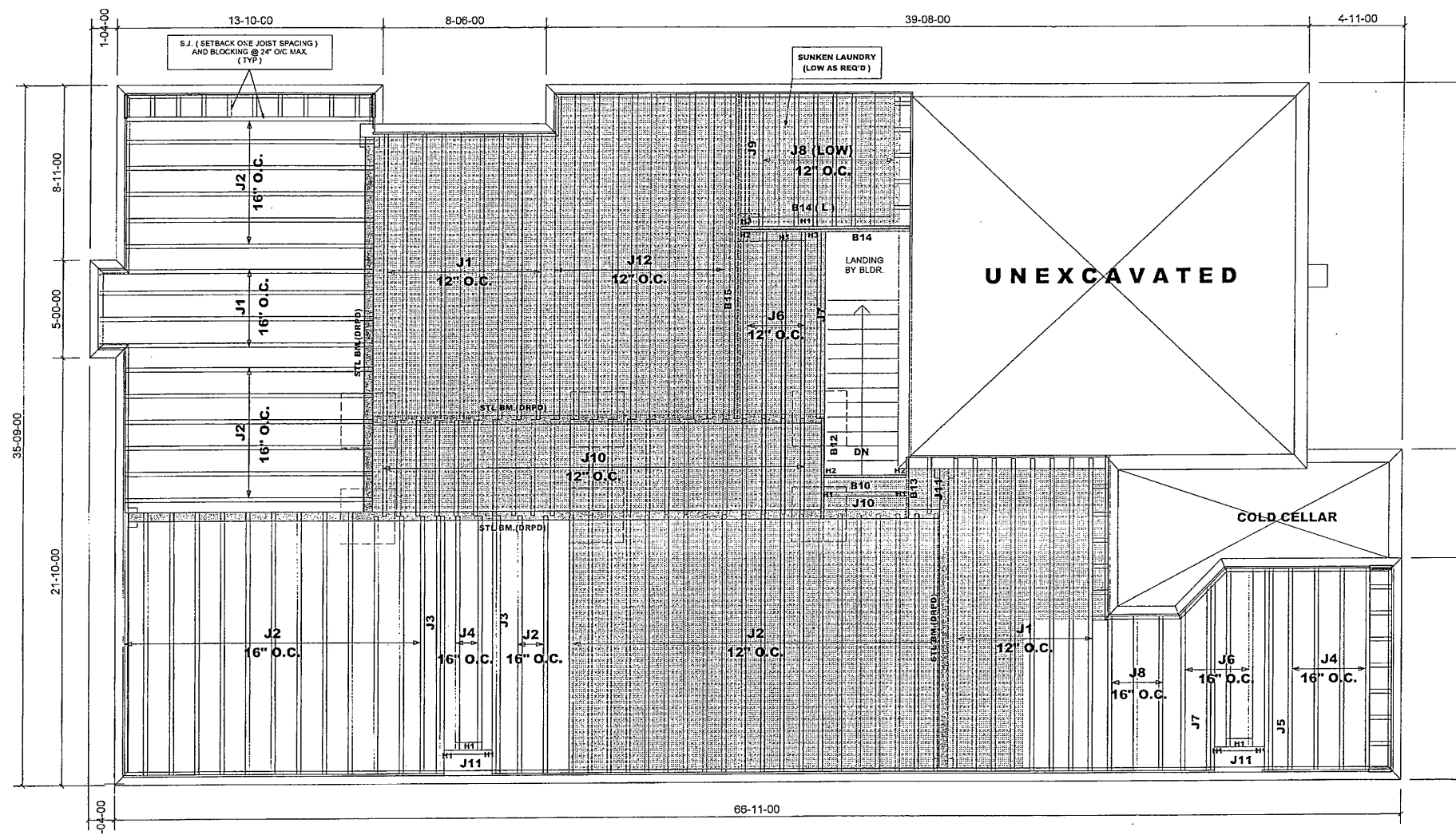
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Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 16 of 18

Site Copy



**S42 - 1B ELEV. "C" (NON-LOFT)
SUNKEN LAUNDRY
W/ W.O.B COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

Do not scale - refer to architectural
plans for dimensions

HATCH LEGEND	
	CERAMIC TILES

Products				
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B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.

H1 ----- IUS2.56/9.5 (FM)
H2 ----- HUS1.81/10 (FM)
H3 ----- HU310-2 (FM)

NOTE :

TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
SBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED

RIMBOARD

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

JT: 44997/94450

Builder: Bayview Wellington Homes

Location: Bradford

Designer: FC/SG

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Mario.
Tamarack Lumber

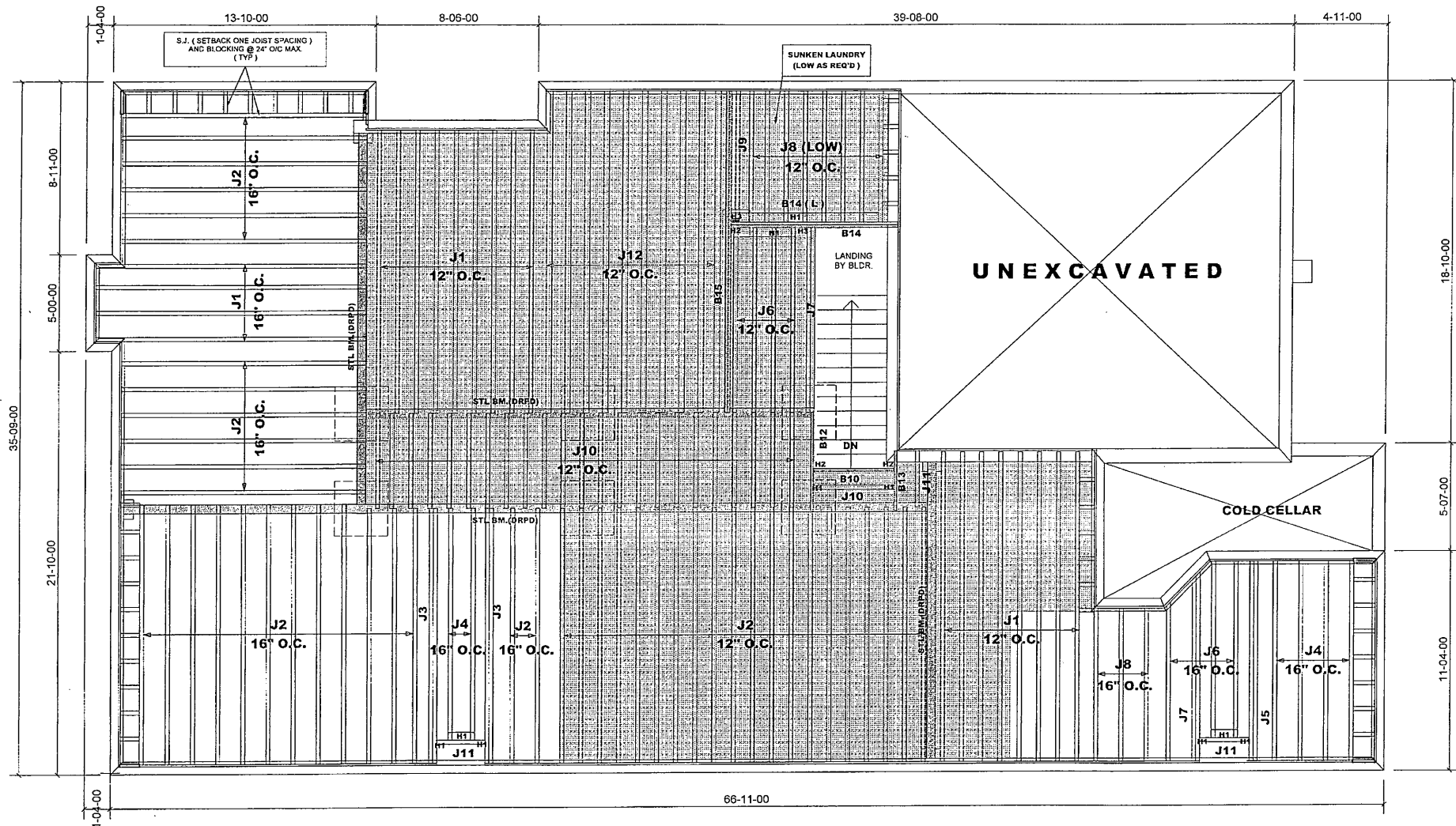
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Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 17 of 18

Site Copy



**S42 - 1B ELEV. " C " (NON-LOFT)
SUNKEN LAUNDRY
W/ W.O.D. COND.
& UPGRADED REAR**

FIRST FLOOR FRAMING

Do not scale - refer to architectural plans for dimensions

HATCH LEGEND	
	CERAMIC TILES

Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	21
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J5	12-00-00	9 1/2" NI-40x	2	2
J6	10-00-00	9 1/2" NI-40x	1	7
J7	10-00-00	9 1/2" NI-40x	2	4
J8	8-00-00	9 1/2" NI-40x	1	11
J9	8-00-00	9 1/2" NI-40x	2	2
J10	6-00-00	9 1/2" NI-40x	1	24
J11	4-00-00	9 1/2" NI-40x	1	3
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B14	10-00-00	VERSALAM-10 2.0E	1	1
B14 (L)	10-00-00	VERSALAM-10 2.0E	1	1
B10	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE.
H1 ——— IUS2 56/9.5 (FM)
H2 ——— HUS1.81/10 (FM)
H3 ——— HU310-2 (FM)

NOTE :
TM - Top Mount Hangers
FM - Face Mount Hanger
APP - As Per Plan
SBO - Beam By Others

SUBFLOOR - 5/8" NAILED & GLUED
RIMBOARD
1 - 1/8" X 9-1/2" O.S.B.

1 - 2X6 SPF#2 squash block req'd on one side of each joists under interior load bearing walls
Multiple squash blocks are required under concentrated loads.
Ceramic tile application as per O.B.C. 9.30.6

BC CALC® Design Report



Beam 3272

Beam Name:

38514

Address:

GREEN VALLEY ESTATES (S42-1B)

City, Province, Postal Code: Bradford, ON

Customer:

BAYVIEW WELLINGTON HOMES

Code reports:

CCMC 12472-R

File Name: S42-1B

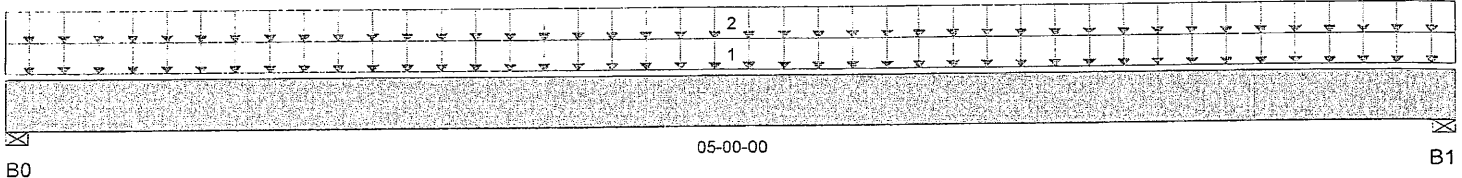
Description: Designs\B10

Specifier:

Designer: F.C.

Company: Alpa Roof Trusses Inc.

Misc:



Total Horizontal Product Length = 05-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	967 / 0	420 / 0		
B1, 3-1/2"	967 / 0	420 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	FLOOR	Unf. Area (lb/ft^2)	L	00-00-00	05-00-00	40	20			03-08-00
2	STAIRS	Unf. Area (lb/ft^2)	L	00-00-00	05-00-00	40	15			06-00-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,037 ft-lbs	12,704 ft-lbs	0.16	1	02-06-00
End Shear	1,119 lbs	5,785 lbs	0.19	1	01-01-00
Total Load Defl.	L/999 (0.021")	n/a	n/a	4	02-06-00
Live Load Defl.	L/999 (0.015")	n/a	n/a	5	02-06-00
Max Defl.	0.021"	n/a	n/a	4	02-06-00
Span / Depth	5.7	n/a	n/a		00-00-00

Bearing Supports

B0	Wall/Plate	3-1/2" x 1-3/4"	1,975 lbs	0.52	0.26	Spruce Pine Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1,975 lbs	0.52	0.26	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 086.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ O.C., STAGGERED IN TWO ROWS

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 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. In BC CALC®, BC FRAMER®, AJST™, ALLJOIST®, BC RIM BOARD™, BCI®, 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.





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

Floor Beam\B11

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

December-04-14

BC CALC® Design Report



Product: 3272

Name:

38514

Address:

GREEN VALLEY ESTATES (S42-1B)

City, Province, Postal Code: Bradford, ON

Customer:

BAYVIEW WELLINGTON HOMES

Code reports:

CCMC 12472-R

File Name: S42-1B

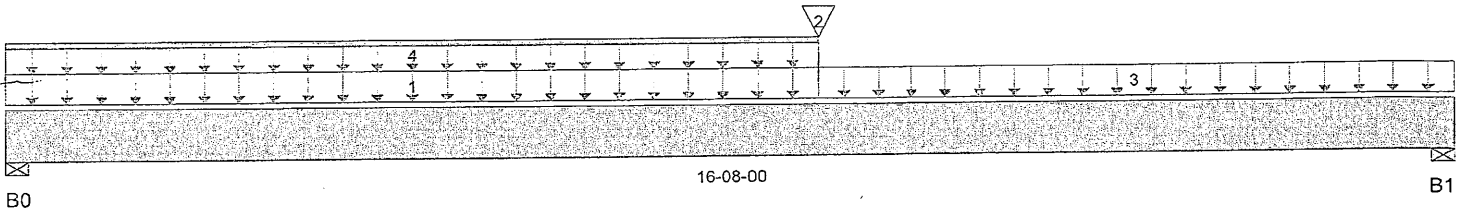
Description: Designs\B11

Specifier:

Designer: F.C.

Company: Alpa Roof Trusses Inc.

Misc:



Total Horizontal Product Length = 16'-0"

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	622 / 0	770 / 0		
B1, 3-1/2"	825 / 0	611 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	FLOOR	Unf. Area (lb/ft^2)	L	00-00-00	09-04-00	40	20			00-06-00
2	PL B10	Conc. Pt. (lbs)	L	09-04-00	09-04-00	967	420			n/a
	FLOOR	Unf. Area (lb/ft^2)	L	09-04-00	16-08-00	40	20			01-00-00
4	WALL	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00		60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	11,611 ft-lbs	25,408 ft-lbs	0.46	1	09-04-00
End Shear	1,896 lbs	11,571 lbs	0.16	1	15-07-00
Total Load Defl.	L/283 (0.688")	0.81"	0.85	4	08-06-11
Live Load Defl.	L/515 (0.378")	0.54"	0.7	5	08-06-11
Max Defl.	0.688"	1"	0.69	4	08-06-11
Span / Depth	20.5	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"	1,895 lbs	0.25	0.13	Spruce Pine Fir
B1	Wall/Plate 3-1/2" x 3-1/2"	2,001 lbs	0.27	0.13	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 086.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 12" O.C., STAGGERED IN TWO ROWS



T-1512

Site Copy



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

Floor Beam\B12

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

December-04-14

BC CALC® Design Report



Project: 3272

Job Name:

38514

Address:

GREEN VALLEY ESTATES (S42-1B)

City, Province, Postal Code: Bradford, ON

Customer:

BAYVIEW WELLINGTON HOMES

Code reports:

CCMC 12472-R

File Name: S42-1B NON LOFT

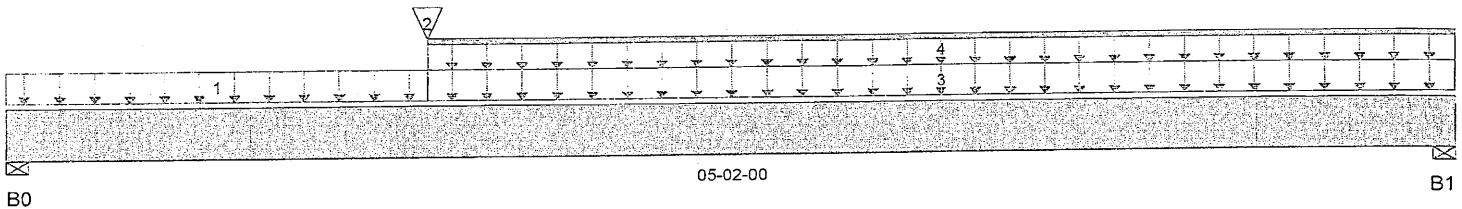
Description: Designs\B12

Specifier:

Designer: F.C.

Company: Alpa Roof Trusses Inc.

Misc:



Total Horizontal Product Length = 05-02-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	872 / 0	457 / 0		
B1, 3-1/2"	342 / 0	301 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1	FLOOR	Unf. Area (lb/ft²)	L	00-00-00	01-06-00	40	15			02-06-00
2	PL B10	Conc. Pt. (lbs)	L	01-06-00	01-06-00	967	420			n/a
	FLOOR	Unf. Area (lb/ft²)	L	01-06-00	05-02-00	40	15			00-08-00
4	WALL	Unf. Lin. (lb/ft)	L	01-06-00	05-02-00		60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,164 ft-lbs	12,704 ft-lbs	0.17	1	01-06-00
End Shear	1,660 lbs	5,785 lbs	0.29	1	01-01-00
Total Load Defl.	L/999 (0.02")	n/a	n/a	4	02-04-11
Live Load Defl.	L/999 (0.012")	n/a	n/a	5	02-04-03
Max Defl.	0.02"	n/a	n/a	4	02-04-11
Span / Depth	5.9	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 1-3/4"	1,880 lbs	0.5	0.25	Spruce Pine Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	890 lbs	0.24	0.12	Spruce Pine Fir

Notes

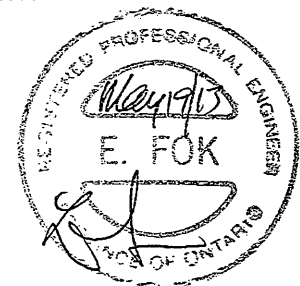
Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets User specified (1") Maximum total load deflection criteria.
Calculations assume Member is Fully Braced.
Resistance Factor phi has been applied to all presented results per CSA 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
O.C., STAGGERED IN TWO ROWS

Disclosure

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C-1505023

Site Copy

BC CALC® Design Report



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

December-04-14

Project: 3272

Job Name:

38514

Address:

GREEN VALLEY ESTATES (S42-1B)

City, Province, Postal Code: Bradford, ON

Customer:

BAYVIEW WELLINGTON HOMES

Code reports:

CCMC 12472-R

File Name: S42-1B NON LOFT

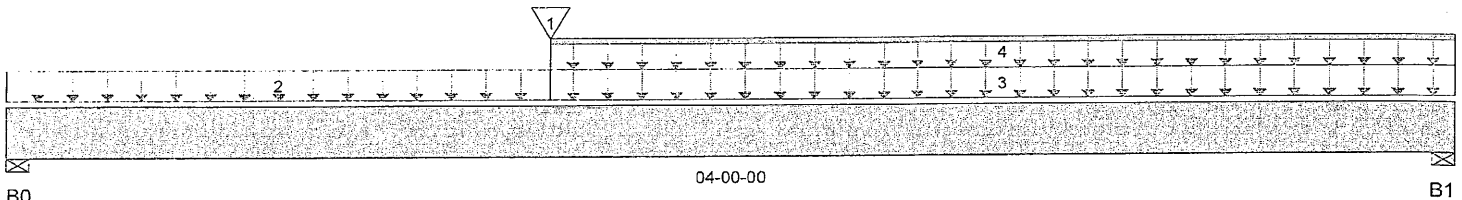
Description: Designs\B13

Specifier:

Designer: F.C.

Company: Alpa Roof Trusses Inc.

Misc:



Total Horizontal Product Length = 04-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	767 / 0	378 / 0		
B1, 3-1/2"	417 / 0	293 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1	PL B10	Conc. Pt. (lbs)	L	01-06-00	01-06-00	967	420			n/a
2	FLOOR	Unf. Area (lb/ft^2)	L	00-00-00	01-06-00	40	15			02-06-00
3	LOOR	Unf. Area (lb/ft^2)	L	01-06-00	04-00-00	40	15			00-08-00
4	WALL	Unf. Lin. (lb/ft)	L	01-06-00	04-00-00		60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,837 ft-lbs	12,704 ft-lbs	0.14	1	01-06-00
End Shear	1,403 lbs	5,785 lbs	0.24	1	01-01-00
Total Load Defl.	L/999 (0.01")	n/a	n/a	4	01-10-13
Live Load Defl.	L/999 (0.006")	n/a	n/a	5	01-10-04
Max Defl.	0.01"	n/a	n/a	4	01-10-13
Span / Depth	4.5	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 1-3/4"	1,623 lbs	0.43	0.22	Spruce Pine Fir
B1	Wall/Plate 3-1/2" x 1-3/4"	991 lbs	0.26	0.13	Spruce Pine Fir

Notes

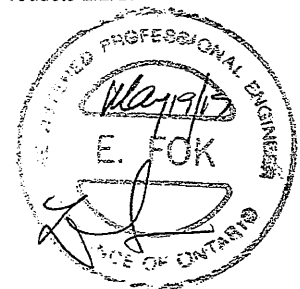
Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Design meets User specified (1") Maximum total load deflection criteria.
 Calculations assume Member is Fully Braced.
 Resistance Factor phi has been applied to all presented results per CSA 086.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 O.C., STAGGERED IN TWO ROWS

Disclosure

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

Floor Beam\B14

BC CALC® Design Report

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

December-04-14

Brid 3272

Name:

38514

Address:

GREEN VALLEY ESTATES (S42-1B)

City, Province, Postal Code: Bradford, ON

Customer:

BAYVIEW WELLINGTON HOMES

Code reports:

CCMC 12472-R

File Name: S42-1B NON LOFT

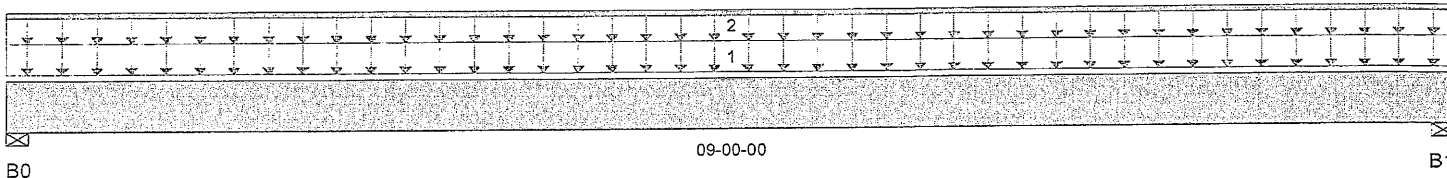
Description: Designs\B14

Specifier:

Designer: F.C.

Company: Alpa Roof Trusses Inc.

Misc:



Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	630 / 0	607 / 0		
B1, 3-1/2"	630 / 0	607 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
1	FLOOR	Unf. Area (lb/ft^2)	L	00-00-00	09-00-00	40	20			03-06-00
2	WALL	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00		60			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,452 ft-lbs	12,704 ft-lbs	0.27	1	04-06-00
End Shear	1,293 lbs	5,785 lbs	0.22	1	01-01-00
Total Load Defl.	L/779 (0.132")	0.427"	0.31	4	04-06-00
Live Load Defl.	L/999 (0.067")	n/a	n/a	5	04-06-00
Max Defl.	0.132"	1"	0.13	4	04-06-00
Span / Depth	10.8	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 1-3/4"	1,703 lbs	0.45	0.23	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,703 lbs	0.45	0.23	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 086.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
 @ O.C., STAGGERED IN TWO ROWS





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

Floor Beam\B15

BC CALC® Design Report

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

December-04-14

File Name: S42-1B NON LOFT

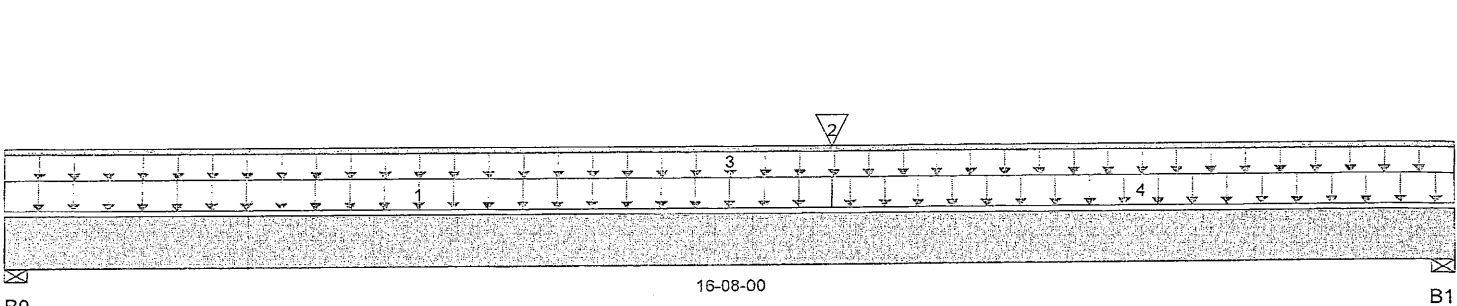
Description: Designs\B15

Specified: F.C.

Designer: F.C.

Company: Alpa Roof Trusses Inc.

Misc:



Total Horizontal Product Length = 16-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	694 / 0	1,052 / 0		
B1, 3-1/2"	729 / 0	1,112 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	FLOOR	Unf. Area (lb/ft^2)	L	00-00-00	09-06-00	40	20			01-04-00
2	PL B14	Conc. Pt. (lbs)	L	09-06-00	09-06-00	630	607			n/a
	WALL	Unf. Lin. (lb/ft)	L	00-00-00	16-08-00		60			n/a
4	FLOOR	Unf. Area (lb/ft^2)	L	09-06-00	16-08-00	40	20			01-00-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	12,813 ft-lbs	25,408 ft-lbs	0.5	1	09-06-00
End Shear	2,297 lbs	11,571 lbs	0.2	1	15-07-00
Total Load Defl.	L/240 (0.809")	0.81"	1	4	08-05-06
Live Load Defl.	L/577 (0.337")	0.54"	0.62	5	08-05-06
Max Defl.	0.809"	1"	0.81	4	08-05-06
Span / Depth	20.5	n/a	n/a		00-00-00

Bearing Supports

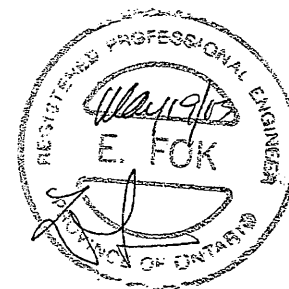
			Demand/ Resistance Support	Demand/ Resistance Member	Material
Bearing Supports		Dim. (L x W)	Demand		
B0	Wall/Plate	3-1/2" x 3-1/2"	2,357 lbs	0.31	0.16
B1	Wall/Plate	3-1/2" x 3-1/2"	2,483 lbs	0.33	0.17
					Spruce Pine Fir
					Spruce Pine Fir

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 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

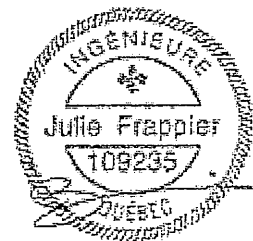
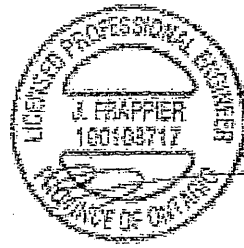
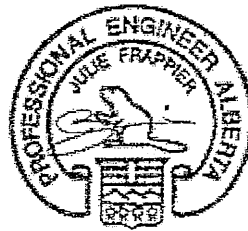
User Notes

L ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
(2") O.C., STAGGERED IN TWO ROWS



T-1505026

Site Copy



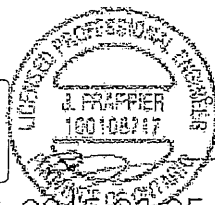
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/360 Deflection Limit
5/8" OSB G&N Sheathing

Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14'-8"	14'-2"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A
11-7/8"	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11"	N/A
14"	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A
	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A
	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A
16"	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A
	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A
	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A
	NI-90x	24'-8"	22'-9"	21'-5"	N/A	25'-4"	23'-5"	22'-4"	N/A

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

- 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 5/8 inch for a joist spacing of 19.2 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.



Joist Series	NI-20	NI-40x	NI-60	NI-70	NI-80	NI-90	NI-90x
5-PF No.2	1-1/2" x 2-1/2"	1-1/2" x 2-1/2"	1-1/2" x 2-1/2"	1-1/2" x 2-1/2"	1-1/2" x 2-1/2"	1-1/2" x 2-1/2"	1-1/2" x 2-1/2"
1950f MSR	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"
2100f MSR	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"
1950f MSR	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"
2100f MSR	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"
2400f MSR	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"
NPG Lumber	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"	OSB 3/4"
33 pieces per unit	33 pieces per unit	33 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit

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-joist 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-joist web shall equal the clear distance between the flanges of the I-joist 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-joist 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 largest 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 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 at 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.)											
		Round Hole Diameter (in.)											
		2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4
9-1/2"	NI-20	0-7"	1-6"	2-10"	4-3"	5-8"	6-0"	---	---	---	---	---	---
	NI-40x	0-7"	1-6"	3-0"	4-4"	6-0"	6-4"	---	---	---	---	---	---
	NI-60	1-3"	2-6"	4-0"	5-4"	7-0"	7-5"	---	---	---	---	---	---
	NI-70	2-0"	3-4"	4-8"	6-3"	8-0"	8-4"	---	---	---	---	---	---
	NI-80	2-3"	3-6"	5-0"	6-6"	8-2"	8-8"	---	---	---	---	---	---
11-7/8"	NI-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-6"	7-9"	---	---	---
	NI-40x	0-7"	0-8"	1-3"	2-8"	4-0"	4-4"	5-5"	7-0"	8-4"	---	---	---
	NI-60	0-7"	1-3"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---	---
	NI-70	1-3"	2-6"	4-0"	5-4"	6-9"	7-2"	8-4"	10-0"	11-2"	---	---	---
	NI-80	1-6"	2-10"	4-2"	5-6"	7-0"	7-5"	8-6"	10-3"	11-4"	---	---	---
14"	NI-20	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	NI-40x	0-7"	0-8"	0-9"	2-5"	4-4"	4-9"	6-3"	---	---	---	---	---
	NI-60	0-7"	0-8"	0-8"	1-0"	2-4"	2-9"	3-9"	5-2"	6-0"	6-6"	8-3"	10-2"
	NI-70	0-7"	0-8"	1-8"	3-0"	4-3"	4-8"	5-8"	7-2"	8-0"	8-8"	10-4"	11-9"
	NI-80	0-7"	0-8"	1-10"	3-0"	4-5"	5-10"	6-2"	7-3"	8-9"	9-0"	10-4"	12-0"
16"	NI-20	0-7"	0-8"	1-5"	3-2"	4-10"	5-4"	6-9"	8-9"	10-2"	---	---	---
	NI-40x	0-7"	0-8"	0-8"	1-0"	2-4"	2-9"	3-9"	5-2"	6-0"	6-6"	8-3"	10-2"
	NI-60	0-7"	0-8"	1-8"	3-0"	4-3"	4-8"	5-8"	7-2"	8-0"	8-8"	10-4"	11-9"
	NI-70	0-7"	0-8"	1-10"	3-0"	4-5"	5-10"	6-2"	7-3"	8-9"	9-0"	10-4"	12-0"
	NI-80	0-7"	0-8"	1-12"	3-0"	4-5"	5-10"	6-2"	7-3"	8-9"	9-0"	10-4"	12-0"

- Above table may be used for I-joist spacing of 24 inches on centre or less.
- Hole location distance is measured from inside face of supports to centre of hole.
- Distances in this chart are based on uniformly loaded joists.
- 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.

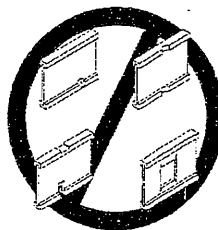
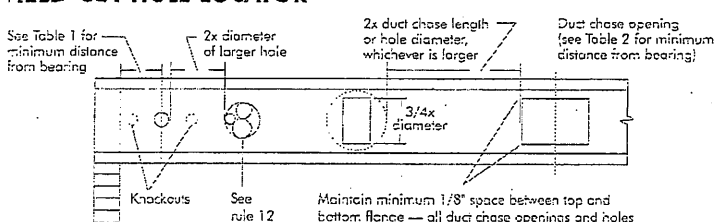
TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

Joist Depth	Joist Series	Minimum distance from inside face of supports to centre of opening (ft - in.)											
		Duct Chase Length (in.)											
		8	10	12	14	16	18	20	22	24	26	28	30
9-1/2"	NI-20	4-1"	4-5"	4-10"	5-4"	5-8"	6-1"	6-6"	7-1"	7-5"	---	---	---
	NI-40x	5-3"	5-8"	6-0"	6-5"	7-1"	7-5"	8-0"	8-3"	8-9"	---	---	---
	NI-60	5-4"	5-9"	6-2"	6-7"	7-1"	7-5"	8-0"	8-3"	8-9"	---	---	---
	NI-70	5-1"	5-5"	5-10"	6-3"	6-7"	7-1"	7-6"	8-1"	8-4"	---	---	---
	NI-80	5-3"	5-8"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"	---	---	---
11-7/8"	NI-20	5-9"	6-2"	6-6"	7-1"	7-5"	7-9"	8-3"	8-9"	9-4"	---	---	---
	NI-40x	6-8"	7-2"	7-6"	8-1"	8-6"	9-1"	9-6"	10-1"	10-9"	---	---	---
	NI-60	7-3"	7-9"	8-0"	8-6"	9-0"	9-5"	9-9"	10-3"	11-0"	---	---	---
	NI-70	7-1"	7-4"	7-9"	8-3"	8-7"	9-1"	9-6"	10-1"	10-4"	---	---	---
	NI-80	7-2"	7-7"	8-0"	8-5"	8-10"	9-3"	9-8"	10-2"	10-8"	---	---	---
14"	NI-20	7-6"	7-11"	8-4"	8-9"	9-2"	9-7"	10-1"	10-7"	10-11"	---	---	---
	NI-40x	7-7"	8-1"	8-5"	8-10"	9-4"	9-8"	10-2"	10-8"	11-2"	---	---	---
	NI-60	8-1"	8-7"	9-0"	9-6"	10-1"	10-7"	11-2"	12-0"	12-8"	---	---	---
	NI-70	8-5"	9-3"	9-8"	10-1"	10-6"	11-1"	11-6"	12-3"	13-0"	---	---	---
	NI-80	8-7"	9-1"	9-5"	9-10"	10-4"	10-8"	11-2"	11-7"	12-3"	---	---	---
16"	NI-20	9-0"	9-3"	9-9"	10-1"	10-7"	11-1"	11-6"	12-1"	12-6"	---	---	---
	NI-40x	9-2"	9-3"	10-0"	10-6"	11-1"	11-5"	11-9"	12-4"	12-11"	---	---	---
	NI-60	10-3"	10-8"	11-2"	11-6"	12-1"	12-6"	13-2"	14-1"	14-10"	---	---	---
	NI-70	10-1"	10-5"	11-0"	11-4"	11-10"	12-3"	12-8"	13-3"	14-0"	---	---	---
	NI-80	10-4"	10-9"	11-3"	11-9"	12-1"	12-7"	13-1"	13-6"	14-4"	---	---	---

- Above table may be used for I-joist spacing of 24 inches on centre or less.
- Duct chase opening location distance is measured from inside face of supports to centre of opening.
- The above table is based on simple-span joists only. For other applications, contact your local distributor.
- 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.
- 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.

FIGURE 7
FIELD-CUT HOLE LOCATOR



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-joist. 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-joist.

SAFETY AND CONSTRUCTION PRECAUTIONS



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



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

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-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 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-joist 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-joist. Nail the bracing to a lateral restraint at the end of each bay. Lay 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-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
- Never install a damaged I-joist.

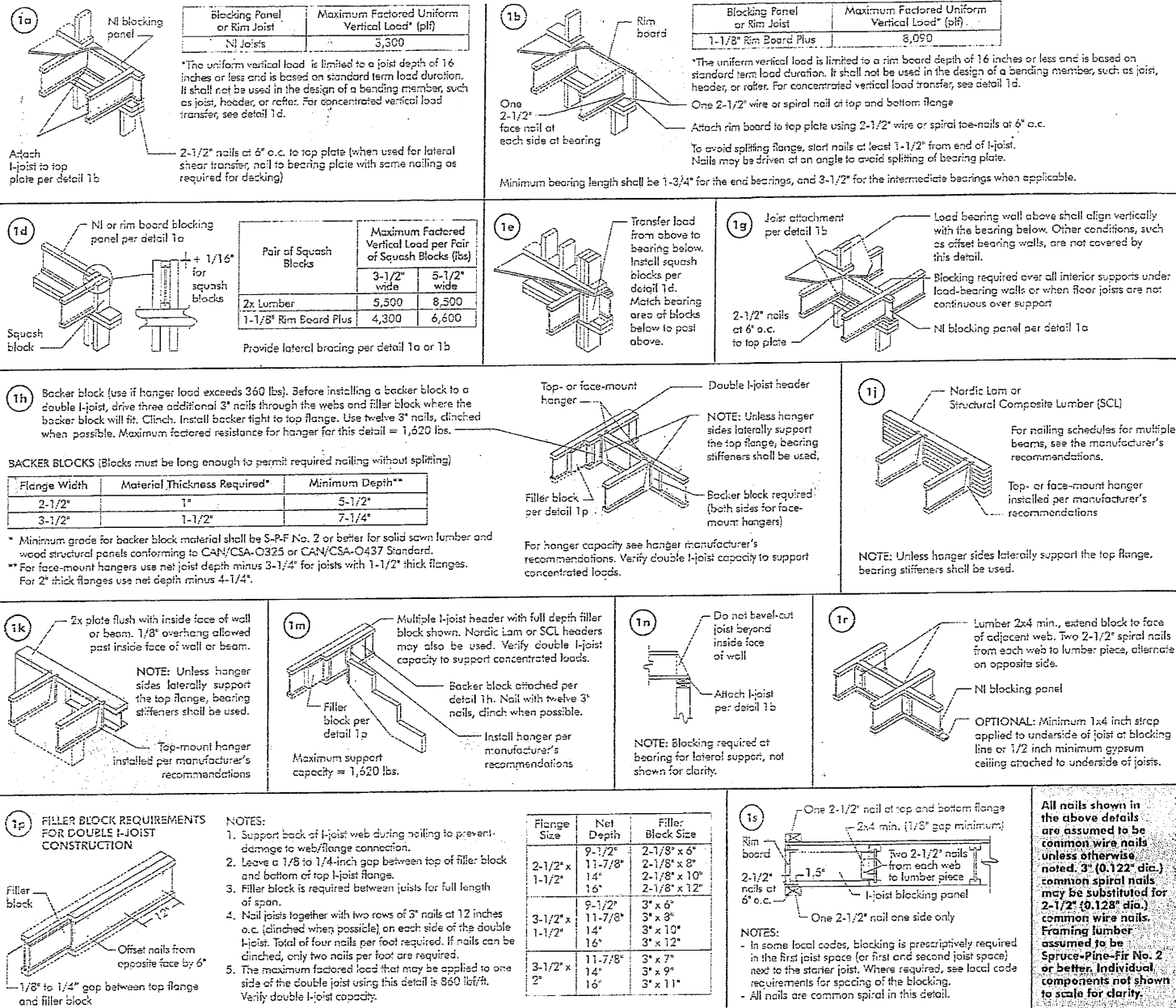
Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines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



PRODUCT WARRANTY

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

Furthermore, Chantiers Chibougamau 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.

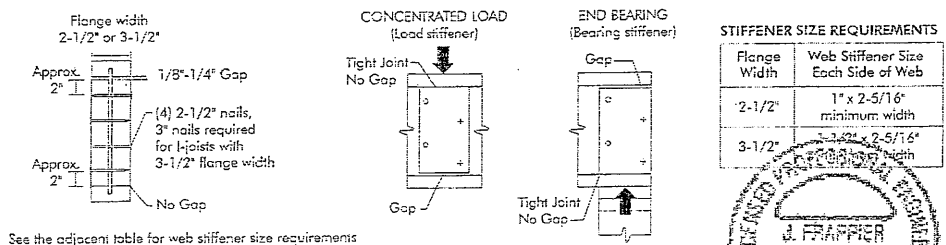


WEB STIFFENERS

RECOMMENDATIONS:

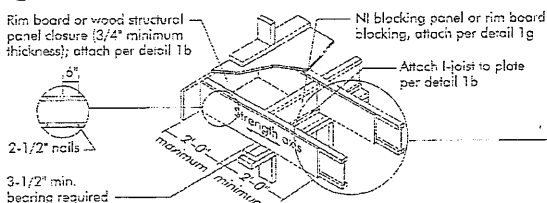
- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found in the I-joist Construction Guide (C101). The gap between the stiffener and the flange is at the top.
- A bearing stiffener is required when the I-joist is supported in a hanger and the sides of the hanger do not extend up to, and 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 2,370 lbs is applied to the top flange between supports, or in the case of a cantilever, anywhere between the cantilever tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

FIGURE 2
WEB STIFFENER INSTALLATION DETAILS

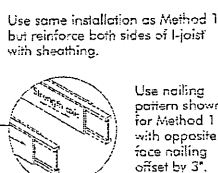


CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

Method 1 — SHEATHING REINFORCEMENT ONE SIDE



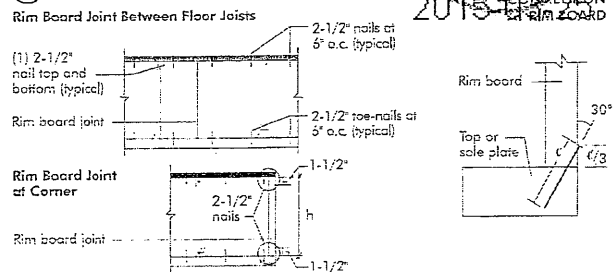
Method 2 — SHEATHING REINFORCEMENT TWO SIDES



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.

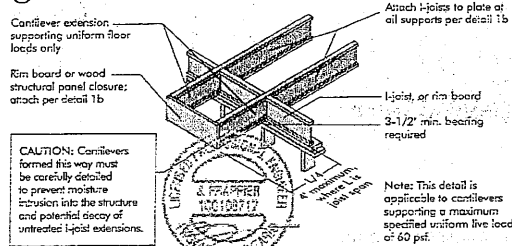
RIM BOARD INSTALLATION DETAILS

8a ATTACHMENT DETAILS WHERE RIM BOARDS ABUT



CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

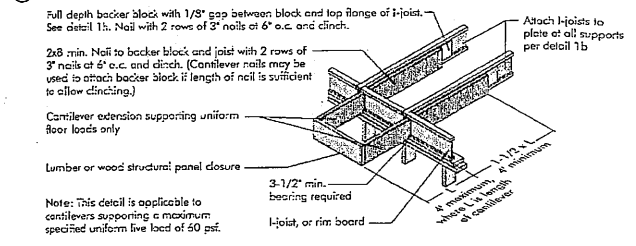
3a) I-JOIST CANTILEVER DETAIL FOR BALCONIES (No Wall Load)



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

Note: This detail is applicable to cantilevers supporting a maximum specified uniform live load of 60 psf.

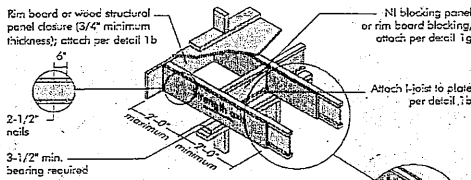
3b) LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load)



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

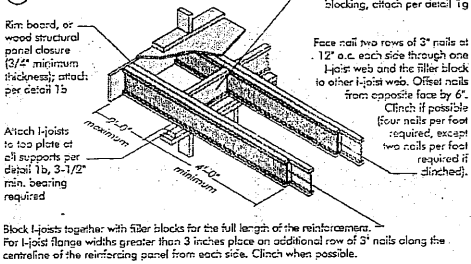


Method 2 — SHEATHING REINFORCEMENT TWO SIDES

- 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 offset by 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 cantilever of the reinforcing panel from each side. Clinch when possible.

FIGURE 4 (continued)

See table below for NI reinforcement requirements of 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 SPACING (in)	ROOF JOIST SPACING																
	12" ON CENTER				16" ON CENTER				20" ON CENTER				24" ON CENTER				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
9-1/2'	26	N	N	N	1	1	2	2	N	1	1	2	2	X	X	X	X
	28	N	N	N	1	1	X	X	N	1	1	2	2	X	X	X	X
	30	N	N	N	1	1	X	X	N	1	1	2	2	X	X	X	X
	32	N	N	N	1	1	X	X	N	1	1	2	2	X	X	X	X
	34	N	N	N	1	1	2	2	X	N	1	1	2	2	X	X	X
11-7/8'	26	N	N	N	N	N	N	N	N	N	1	2	2	N	N	1	1
	28	N	N	N	N	N	N	N	N	1	1	2	2	N	N	1	1
	30	N	N	N	N	N	N	N	N	1	1	2	2	N	N	1	1
	32	N	N	N	N	N	N	N	N	1	1	2	2	N	N	1	1
	34	N	N	N	N	N	N	N	1	1	1	2	2	X	X	X	X
14'	26	N	N	N	N	N	N	N	N	N	1	2	2	N	N	1	1
	28	N	N	N	N	N	N	N	N	1	1	2	2	N	N	1	1
	30	N	N	N	N	N	N	N	N	1	1	2	2	N	N	1	1
	32	N	N	N	N	N	N	N	N	1	1	2	2	N	N	1	1
	34	N	N	N	N	N	N	N	1	1	1	2	2	X	X	X	X
16'	26	N	N	N	N	N	N	N	N	N	1	2	2	N	N	1	1
	28	N	N	N	N	N	N	N	N	1	1	2	2	N	N	1	1
	30	N	N	N	N	N	N	N	N	1	1	2	2	N	N	1	1
	32	N	N	N	N	N	N	N	N	1	1	2	2	N	N	1	1
	34	N	N	N	N	N	N	N	1	1	1	2	2	X	X	X	X

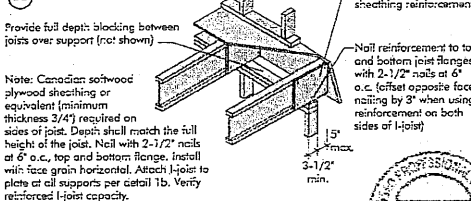
- NI = No reinforcement required.
- NI reinforced with 3/4\" wood structural panel on one side only.
- NI reinforced with 3/4\" wood structural panel on both sides, or double I-joist.
- X = Try a deeper joist or closer spacing.

For larger openings, or multiple 3'-0\" with openings spaced less than 6'-0\" o.c., additional joists beneath the opening's cripple studs may be required.

- NI reinforced with 3/4\" wood structural panel on one side only.
- NI reinforced with 3/4\" wood structural panel on both sides, or double I-joist.
- X = Try a deeper joist or closer spacing.

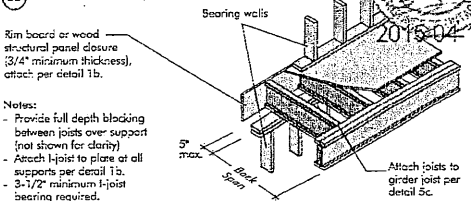
BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

5a) SHEATHING REINFORCEMENT



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.

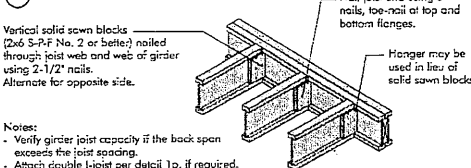
5b) SET-BACK DETAIL



Notes:

- Provide full depth blocking between joists over support (not shown for clarity).
- Attach I-joist to plate at all supports per detail 1b.
- 3-1/2\" minimum I-joist bearing required.

5c) SET-BACK CONNECTION



Notes:

- Verify girder joist capacity if the back span exceeds the joist spacing.
- Attach double I-joist per detail 1p, if required.

FIGURE 5 (continued)

See table below for NI reinforcement requirements of 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.

BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST SPACING	JOIST SPACING	JOIST SPACING															
		12"				16"				20"				24"			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
9-1/2'	26	N	N	N	N	2	2	X	X	X	X	2	X	X	X	X	X
	28	1	1	X	X	2	2	X	X	X	X	2	X	X	X	X	X
	30	1	1	X	X	2	2	X	X	X	X	2	X	X	X	X	X
	32	2	2	X	X	2	2	X	X	X	X	2	X	X	X	X	X
	34	2	2	X	X	2	2	X	X	X	X	2	X	X	X	X	X
11-7/8'	36	2	2	X	X	2	2	X	X	X	X	2	X	X	X	X	X
	38	N	N	2	2	X	X	1	1	X	X	2	1	1	X	X	X
	40	N	N	2	2	X	X	1	1	X	X	2	1	1	X	X	X
	42	1	1	X	X	2	2	1	1	X	X	2	1	1	X	X	X
	44	1	1	X	X	2	2	1	1	X	X	2	1	1	X	X	X
14'	46	N	N	1	1	2	2	X	X	N	2	2	X	X	1	1	X
	48	N	N	1	1	2	2	X	X	N	2	2	X	X	1	1	X
	50	N	N	1	1	2	2	X	X	N	2	2	X	X	1	1	X
	52	N	N	2	2	X	X	1	1	X	X	2	2	X	X	2	2
	54	N	N	2	2	X	X	1	1	X	X	2	2	X	X	2	2
16'	56	N	N	2	2	X	X	1	1	X	X	2	2	X	X	2	2
	58	1	1	2	2	X	X	1	1	X	X	2	2	X	X	2	2
	60	1	1	2	2	X	X	1	1	X	X	2	2	X	X	2	2
	62	1	1	X	X	2	2	1	1	X	X	2	2	1	1	X	X
	64	1	1	X	X	2	2	1	1	X	X	2	2	1	1	X	X
18'	66	N	N	1	1	2	2	X	X	N	2	2	X	X	1	1	X
	68	N	N	1	1	2	2	X	X	N	2	2	X	X	1	1	X
	70	N	N	1	1	2	2	X	X	N	2	2	X	X	1	1	X
	72	N	N	2	2	X	X	1	1	X	X	2	2	X	X	2	2
	74	N	N	2	2	X	X	1	1	X	X	2	2	X	X	2	2

- NI = No reinforcement required.
- NI reinforced with 3/4\" wood structural panel on one side only.
- NI reinforced with 3/4\" wood structural panel on both sides, or double I-joist.
- X = Try a deeper joist or closer spacing.

For larger openings, or multiple 3'-0\" with openings spaced less than 6'-0\" o.c., additional joists beneath the opening's cripple studs may be required.

- NI reinforced with 3/4\" wood structural panel on one side only.
- NI reinforced with 3/4\" wood structural panel on both sides, or double I-joist.
- X = Try a deeper joist or closer spacing.

WEB HOLES

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

1. 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.
2. I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. Whenever possible, field-cut holes should be centred on the middle of the web.
4. The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist 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-joist flange.
5. 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.
6. 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.
7. 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.
8. Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.
9. 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.
10. 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.
11. Limit three maximum size holes per span, of which one may be a duct chase opening.
12. A group of round holes at 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

Span	Joist Depth	Minimum Distance from Inside Face of Support to Centre of Hole (inches)									
		1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	3"
1/2"	N-20	0.7	1.0	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.1
	N-40	1.2	1.6	1.7	2.0	2.1	2.4	2.5	2.6	3.0	3.1
	N-60	2.0	2.4	2.5	2.8	2.9	3.2	3.3	3.4	3.8	3.9
1 1/2"	N-20	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.6	1.7
	N-40	0.7	1.0	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.1
	N-60	0.7	1.3	1.4	1.6	1.7	1.9	2.0	2.1	2.4	2.5
2"	N-20	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.6	1.7
	N-40	0.7	1.0	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.1
	N-60	0.7	1.3	1.4	1.6	1.7	1.9	2.0	2.1	2.4	2.5
3"	N-20	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.6	1.7
	N-40	0.7	1.0	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.1
	N-60	0.7	1.3	1.4	1.6	1.7	1.9	2.0	2.1	2.4	2.5

1. Above table may be used for I-joist 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.

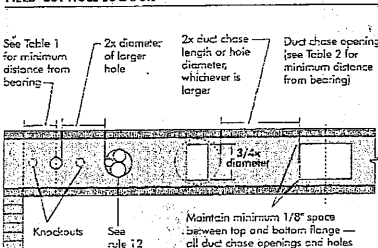
OPTIONAL:

The above table is based on the I-joists used at their maximum span. If the I-joists are placed at less than their full maximum span (see Maximum Span Table), the minimum distance from the centreline of the hole to the face of any support (D) as given above may be reduced as follows:

$$D_{\text{reduced}} = \frac{\text{Actual Span}}{\text{Max Span}} \times D$$

- Where:
- D_{reduced} = Distance from the inside face of any support to centre of hole, reduced for less than maximum span application.
 - D = Distance from the inside face of any support to centre of hole, as given in the table.
 - Actual Span = The actual measured span distance between the inside faces of supports (S).
 - Max Span = Span Adjustment Factor given in this table.
 - D = The minimum distance from the inside face of any support to centre of hole from this table.
- If $\frac{\text{Actual Span}}{\text{Max Span}}$ is greater than 1, use 1 in the above calculation for $\frac{\text{Actual Span}}{\text{Max Span}}$.

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-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-joist. 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-joist.

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

Span	Joist Depth	Minimum Distance from Inside Face of Support to Centre of Opening (inches)									
		1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	3"
1/2"	N-20	0.7	1.0	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.1
	N-40	1.2	1.6	1.7	2.0	2.1	2.4	2.5	2.6	3.0	3.1
	N-60	2.0	2.4	2.5	2.8	2.9	3.2	3.3	3.4	3.8	3.9
1 1/2"	N-20	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.6	1.7
	N-40	0.7	1.0	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.1
	N-60	0.7	1.3	1.4	1.6	1.7	1.9	2.0	2.1	2.4	2.5
2"	N-20	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.6	1.7
	N-40	0.7	1.0	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.1
	N-60	0.7	1.3	1.4	1.6	1.7	1.9	2.0	2.1	2.4	2.5
3"	N-20	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.6	1.7
	N-40	0.7	1.0	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.1
	N-60	0.7	1.3	1.4	1.6	1.7	1.9	2.0	2.1	2.4	2.5

1. Above table may be used for I-joist 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, consult 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. For other applications, consult your local distributor.

INSTALLING THE GLUED FLOOR SYSTEM

1. Wipe any mud, dirt, water, or ice from I-joist flanges before gluing.
2. Snap a chalk line across the I-joists four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
3. Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
4. 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.
5. Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joist. Apply glue in a winding pattern on wide areas, such as with double I-joists.
6. Apply two lines of glue on I-joists where panel ends butt to assure proper gluing of each end.
7. 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-joist flanges.
8. Tap the second row of panels into place, using a block to protect groove edges.
9. Stagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch at all edges, including T&G edges, is recommended. (Use a spacer tool or an 1/2-inch common nail to assure accurate and consistent spacing.)
10. Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations for cure time. Warm weather accelerates glue setting. Use 2" ring- or screw-shank nails for panels 3/4-inch thick or less, and 2-1/2" ring- 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⁾

Panel Thickness (in.)	Joist Spacing (in.)	Fastener Type	Fastener Size	Fastener Spacing (in.)	Fastener Spacing (in.)
16	5/8"	2"	1-3/4"	2"	6"
20	5/8"	2"	1-3/4"	2"	6"
24	3/4"	2"	1-3/4"	2"	6"

1. Fasteners of sheathing and subflooring shall conform to the above table.
2. Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown driven with the crown parallel to framing.
3. Flooring screws shall not be less than 1/8-inch in diameter.
4. Special conditions may impose heavy traffic and concentrated loads that require construction in excess of the minimums shown.
5. Use only adhesives 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.

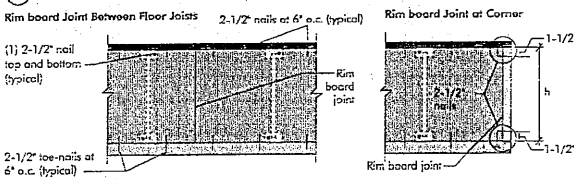
Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

IMPORTANT NOTE:

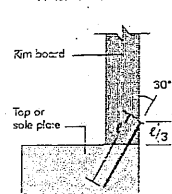
Floor sheathing must be field glued to the I-joist flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joist spans must be verified with your local distributor.

RIM BOARD INSTALLATION DETAILS

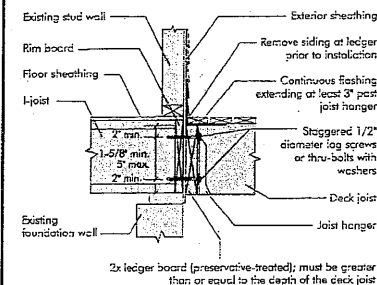
(8a) ATTACHMENT DETAILS WHERE RIM BOARDS ABUT



(8b) TOE-NAIL CONNECTION AT RIM BOARD



(8c) 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL

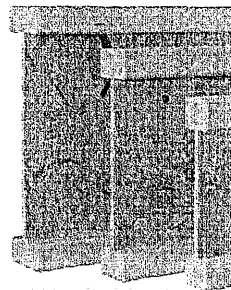


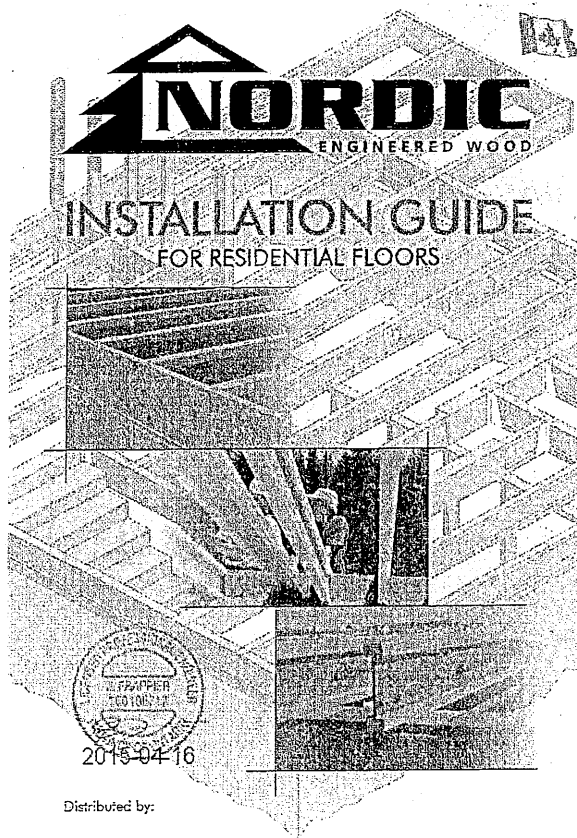
2015-04-16

PRODUCT WARRANTY

Chambers Construction guarantees that, in accordance with our specifications, *Perma-Deck* is free from manufacturing defects in materials and workmanship.

Furthermore, Chambers Construction warrants that our products, when installed in accordance with our building and installation instructions, will meet or exceed our specifications for the lifetime of the structure.





Distributed by:



SAFETY AND CONSTRUCTION PRECAUTIONS



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 sheathed, do not over-stress I-joist with concentrated loads from building materials.

WARNING

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

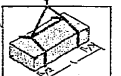
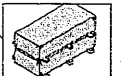
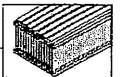
Avoid Accidents by Following these Important Guidelines:

1. Brace and nail each I-joint as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at joint ends. When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
2. 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 center, 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.
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-joint before placing loads on the floor system. Then, stack building materials over beams or walls only.
5. 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.

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 moisture.
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.

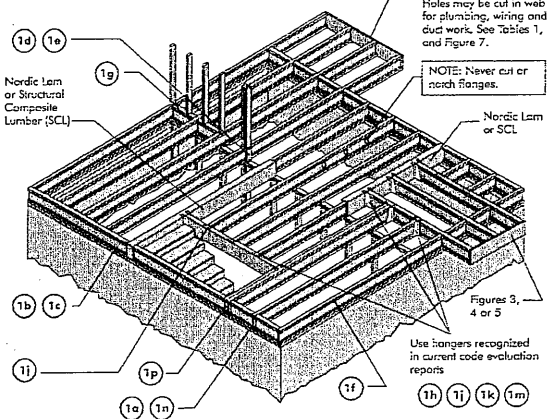


INSTALLING NORDIC I-JOISTS

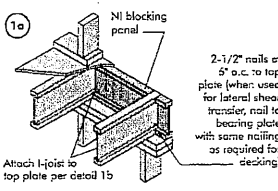
1. Before laying out floor system components, verify that I-joint flange widths match hanger widths. If not, contact supplier.
2. Except for cutting to length, I-joint flanges should never be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for I-joists 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, seat I-joists firmly in hanger bottoms to minimize settlement.
7. Leave a 1/16-inch gap between the I-joint end and a header.
8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suspend unusual or heavy loads from the I-joint's bottom flange. Whenever possible, suspend all concentrated loads from the top of the I-joint. Or, attach the load to blocking that has been securely fastened to the I-joint 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-joint 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-joint blocking panels or other engineered wood products – such as rim board – must be cut to fit between the I-joists, and an I-joint-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 spacing: 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

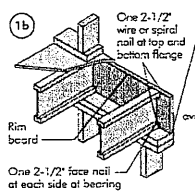
Some framing requirements such as erection bracing and blocking panels have been omitted for clarity.



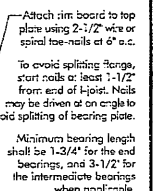
All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.



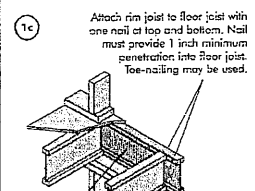
*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



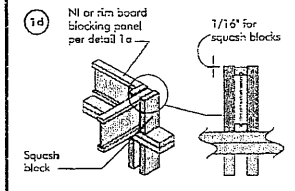
*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



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MAXIMUM FLOOR SPANS

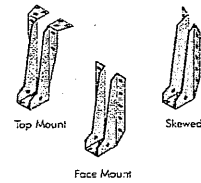
- Maximum clear spans applicable to single-span or multiple-span joist floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include live load deflection for floor vibration 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.
- Spans are based on a composite floor with glued-injected strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less, or 3/4 inch for joist spacing of 24 inches. Adhesive shall meet the requirements given in CGS-71.26 Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the use of gypsum core or a row of blocking at mid-span.
- Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate 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 uniform loads, an engineering analysis may be required based on the use of the design properties.
- Tables are based on Limit States Design per CAN/CSA O85-09 Standard, and NBS 2010.
- SI units conversion: 1 inch = 25.4 mm
1 foot = 0.305 m

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

Joist Size	Span (ft)	Span (m)	Span (ft)	Span (m)	Span (ft)	Span (m)	Span (ft)	Span (m)	Span (ft)	Span (m)
9-1/2"	NI-20	15.1'	14.2'	13.2'	12.5'	11.4'	10.4'	9.4'	8.4'	7.4'
	NI-40	16.1'	15.2'	14.2'	13.2'	12.2'	11.2'	10.2'	9.2'	8.2'
	NI-60	16.9'	15.9'	14.9'	13.9'	12.9'	11.9'	10.9'	9.9'	8.9'
	NI-80	17.3'	16.3'	15.3'	14.3'	13.3'	12.3'	11.3'	10.3'	9.3'
11-7/8"	NI-20	18.1'	17.1'	16.1'	15.1'	14.1'	13.1'	12.1'	11.1'	10.1'
	NI-40	18.1'	17.1'	16.1'	15.1'	14.1'	13.1'	12.1'	11.1'	10.1'
	NI-60	18.4'	17.4'	16.4'	15.4'	14.4'	13.4'	12.4'	11.4'	10.4'
	NI-80	18.7'	17.7'	16.7'	15.7'	14.7'	13.7'	12.7'	11.7'	10.7'
14"	NI-20	19.1'	18.1'	17.1'	16.1'	15.1'	14.1'	13.1'	12.1'	11.1'
	NI-40	19.1'	18.1'	17.1'	16.1'	15.1'	14.1'	13.1'	12.1'	11.1'
	NI-60	19.4'	18.4'	17.4'	16.4'	15.4'	14.4'	13.4'	12.4'	11.4'
	NI-80	19.7'	18.7'	17.7'	16.7'	15.7'	14.7'	13.7'	12.7'	11.7'
16"	NI-20	20.4'	19.4'	18.4'	17.4'	16.4'	15.4'	14.4'	13.4'	12.4'
	NI-40	20.4'	19.4'	18.4'	17.4'	16.4'	15.4'	14.4'	13.4'	12.4'
	NI-60	20.7'	19.7'	18.7'	17.7'	16.7'	15.7'	14.7'	13.7'	12.7'
	NI-80	21.0'	20.0'	19.0'	18.0'	17.0'	16.0'	15.0'	14.0'	13.0'

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.



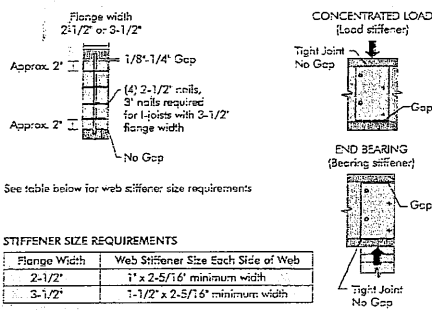
WEB STIFFENERS

RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found in the Joist Construction Guide (C101). The gap 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 sides of the hanger do not extend up to, and 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 2,370 lbs is applied to the top flange between supports, or in the case of a stiffener, anywhere between the stiffener tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

SI units conversion: 1 inch = 25.4 mm

FIGURE 2
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

NORDIC I-JOIST SERIES

Chomiers Chibougamau Ltd. harvests its own trees, which enable Nordic products to adhere to strict quality control procedures through the manufacturing process. Every phase of the operation, from the finished product, reflects our commitment to quality.

Nordic Engineered Wood I-joists use only finger-jointed stock species lumber in their flanges, ensuring consistent quality, superior strength and longer span carrying capacity.

2015-04-16

1e Transfer load from above to bearing below. Install squish blocks per detail 1d. Match bearing area of blocks below to post above.

1f Use single I-joist for loads up to 3,200 plf, double I-joists for loads up to 6,400 plf. Backer block not required. Attach I-joist to top plate using 2-1/2" nails at 6" o.c.

1g Provide backer for sliding attachment unless nailable sheathing is used. Kim board may be used in lieu of I-joists. Backer is not required when kim board is used. Bracing per code shall be carried to the foundation.

1h Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" nails through the webs and filler block where the backer block will sit. Clinch. Install backer right to top flange. Use twelve 3" nails, clinched when possible. Maximum fastener resistance for hanger for this detail = 1,620 lbs.

1i Double I-joist header. Top- or face-mount hanger. Backer block required (both sides for face-mount hangers).

1j Nordic Lam or SCL. Top- or face-mount hanger installed per manufacturer's recommendations. For nailing schedules for multiple beams, see the manufacturer's recommendations.

1k 2x plate flush with inside face of wall or beam. 1/8" overhang allowed past inside face of wall or beam. Top-mount hanger installed per manufacturer's recommendations.

1l Multiple I-joist header with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads. Filler block per detail 1p. Install hanger per manufacturer's recommendations. Backer block attached per detail 1h. Nail with twelve 3" nails, clinch when possible. Maximum support capacity = 1,620 lbs.

1m Do not bevel-cut joist beyond inside face of wall. Attach I-joist per detail 1b. Note: Blocking required at bearing for lateral support, not shown for clarity.

1n Backer blocks (Block must be long enough to permit required nailing without splitting).

Flange Width	Material Thickness Required	Minimum Depth**
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

* Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-O325 or CAN/CSA-O328 Standard.

** For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use net depth minus 4-1/4".

1o Filler block. 1-1/8" to 1-1/4" gap between top flange and filler block. Other nails from opposite face by 6".

1p Filler block requirements for double I-joist construction.

Flange Size	Joist Depth	Filler Block Size
2-1/2" x 1-1/2"	9-1/2"	2-1/8" x 6"
	11-7/8"	2-1/8" x 8"
	14"	2-1/8" x 10"
	16"	2-1/8" x 12"
3-1/2" x 1-1/2"	9-1/2"	3" x 6"
	11-7/8"	3" x 8"
	14"	3" x 10"
	16"	3" x 12"
3-1/2" x 2"	11-7/8"	3" x 7"
	14"	3" x 9"
	16"	3" x 11"

1q Lumber 2x4 min., extend block to face of adjacent web. Two 2-1/2" spiral nails from each web to lumber piece, alternate on opposite side. Ni blocking panel. Optional: Minimum 1x4 inch strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joist.

1r One 2-1/2" nails at top and bottom flange. Two 2-1/2" nails from each web to lumber piece. 2x4 min. (1/8" gap minimum). Two 2-1/2" nails from each web to lumber piece. I-joist blocking panel. One 2-1/2" nails one side only. 2-1/2" nails at 6" o.c.

Notes:

- In some local codes, blocking is prescriptively required in the first joist space (for first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of the blocking.
- All nails are common spiral in this detail.