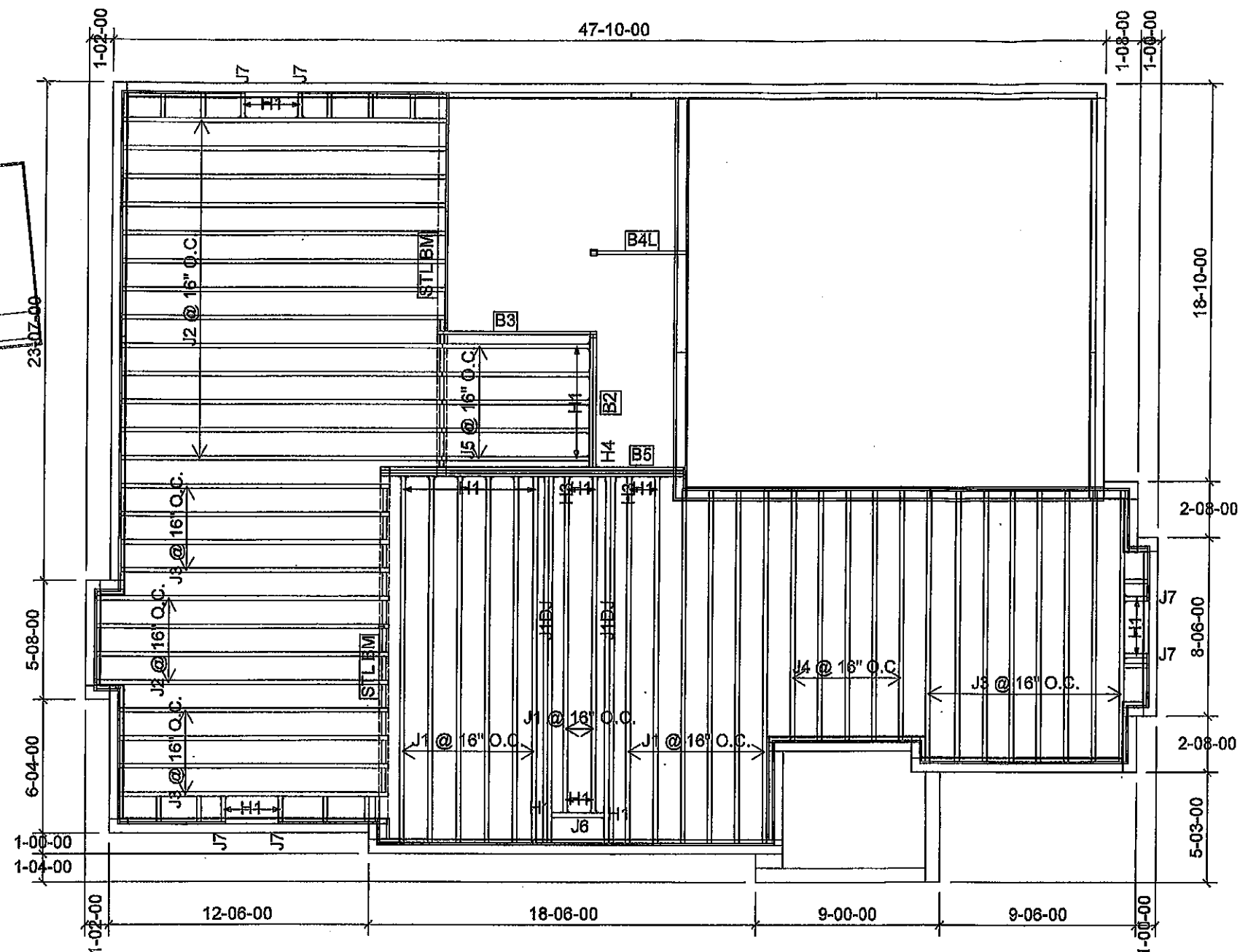


CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department

MAR 5 2021

REC'D BY _____ DATE _____
REF'D TO _____ DATE _____



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	18-00-00	11 7/8" NI-40x	1	14	MFD
J1DJ	18-00-00	11 7/8" NI-40x	2	4	MFD
J2	16-00-00	11 7/8" NI-40x	1	17	MFD
J3	14-00-00	11 7/8" NI-40x	1	16	MFD
J4	12-00-00	11 7/8" NI-40x	1	5	MFD
J5	8-00-00	11 7/8" NI-40x	1	5	MFD
J6	4-00-00	11 7/8" NI-40x	1	1	MFD
J7	2-00-00	11 7/8" NI-40x	1	6	MFD
B5	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	MFD
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B2	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B4L	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD

Connector Summary		
Qty	Manuf	Product
5	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
8	H1	IUS2.56/11.88
2	H3	HU312-2
1	H4	HGUS410

TAMARACK
LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED:

BUILDER: GREENPARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 11

ELEVATION: 1

LOT:

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION:

NOTES:

REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7, TABLES 1 & 2. **CERAMIC TILE** APPLICATION AS PER O.B.C 9.30.6.

LOADING:

DESIGN LOADS: L/480.000

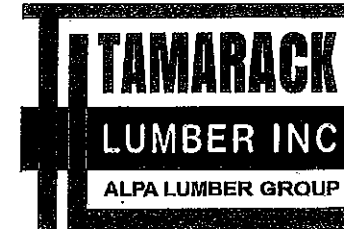
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2020-02-11

1st FLOOR



FROM PLAN DATED:

BUILDER: GREENPARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 11

ELEVATION: 1

LOT:

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION:

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING CANT' OVER BRICK RE I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7, TABLES 1 & 2. **CERAMIC TILE** APPLICATION AS PER O.B.C 9.30.6.

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

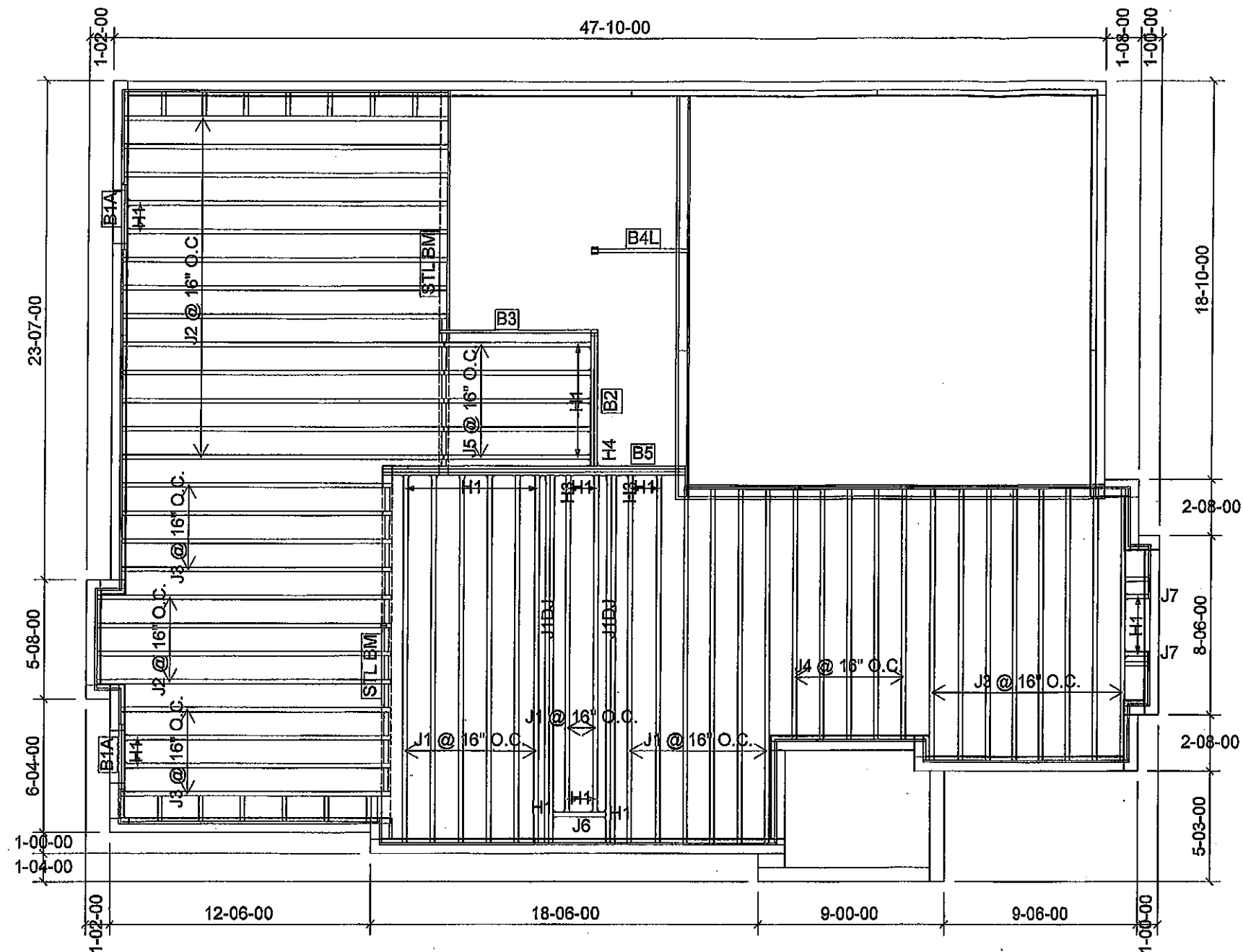
DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2020-04-16

1st FLOOR

DECK CONDITION



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	18-00-00	11 7/8" NI-40x	1	14	MFD
J1DJ	18-00-00	11 7/8" NI-40x	2	4	MFD
J2	16-00-00	11 7/8" NI-40x	1	17	MFD
J3	14-00-00	11 7/8" NI-40x	1	16	MFD
J4	12-00-00	11 7/8" NI-40x	1	5	MFD
J5	8-00-00	11 7/8" NI-40x	1	5	MFD
J6	4-00-00	11 7/8" NI-40x	1	1	MFD
J7	2-00-00	11 7/8" NI-40x	1	2	MFD
B5	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	MFD
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B2	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B4L	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B1A	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	4	MFD

Connector Summary		
Qty	Manuf	Product
9	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H3	HU312-2
1	H4	HGUS410



FROM PLAN DATED:

BUILDER: GREENPARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 11

ELEVATION: 2

LOT:

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION:

NOTES:

REFER TO THE NORDIC **INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. **CERAMIC TILE** APPLICATION AS PER O.B.C. 9.30.6

LOADING:

DESIGN LOADS: L/480.000

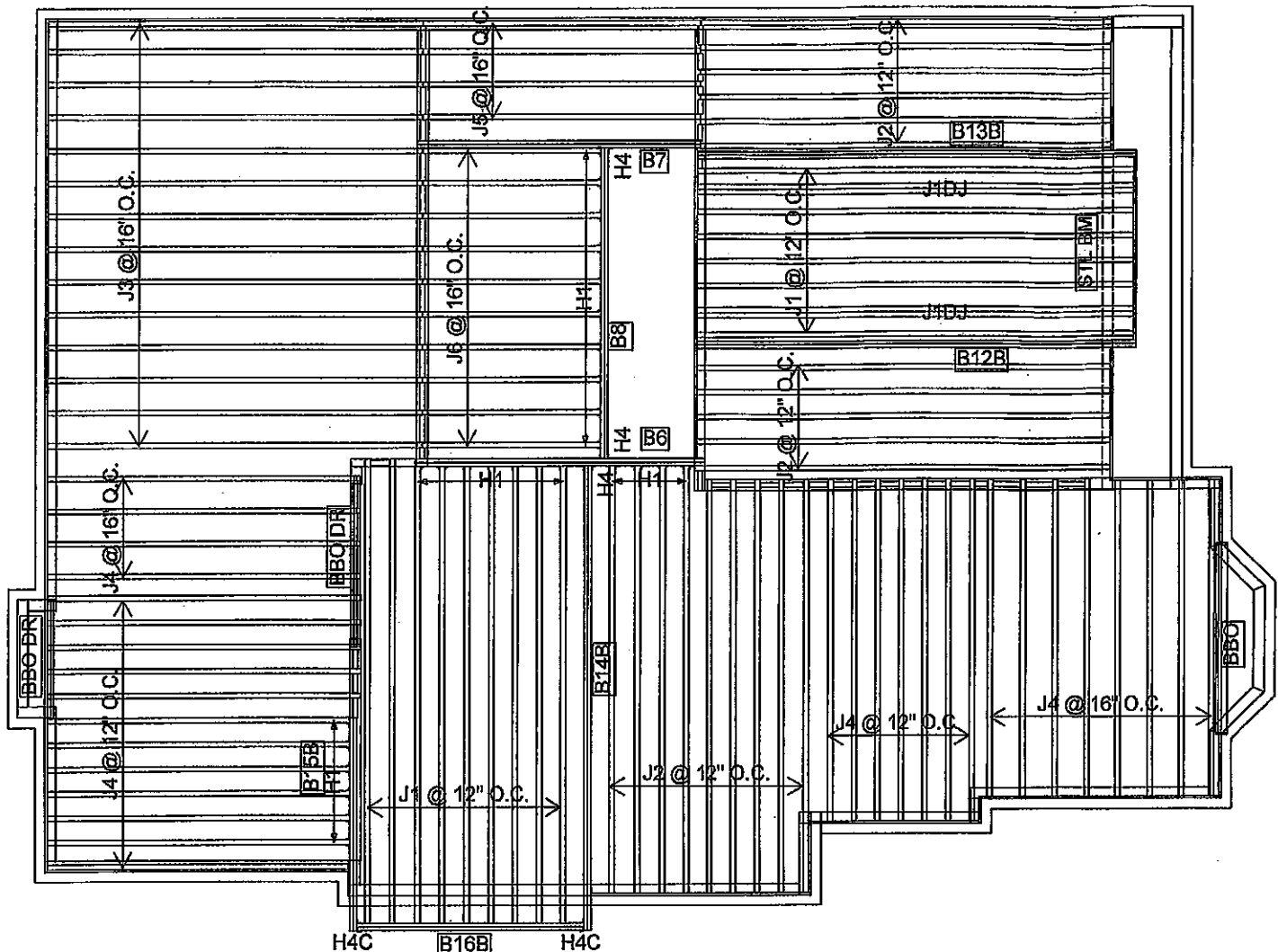
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2020-03-03

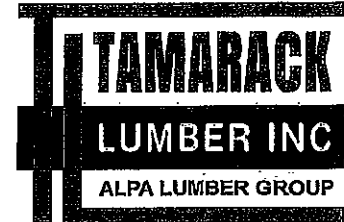
2nd FLOOR



HANGER NOT REQ'D J1/ B16 CONNECTION

Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	20-00-00	11 7/8" NI-40x	1	15	MFD
J1DJ	20-00-00	11 7/8" NI-40x	2	4	MFD
J2	18-00-00	11 7/8" NI-40x	1	20	MFD
J3	16-00-00	11 7/8" NI-40x	1	14	MFD
J4	14-00-00	11 7/8" NI-40x	1	31	MFD
J5	12-00-00	11 7/8" NI-40x	1	4	MFD
J6	8-00-00	11 7/8" NI-40x	1	10	MFD
B12B	20-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B13B	20-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B14B	20-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B6	12-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B7	12-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B15B	10-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2	MFD
B16B	10-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2	MFD

Connector Summary		
Qty	Manuf	Product
27	H1	IUS2.56/11.88
2	H4C	HUC412
3	H4	HGUS410



FROM PLAN DATED:
BUILDER: GREENPARK HOMES
SITE: RUSSELL GARDENS PH 3
MODEL: MOUNTAINASH 11
ELEVATION: 2
LOT:
CITY: WATERDOWN
SALESMAN: MARIO DICIANO
DESIGNER: AJ
REVISION:

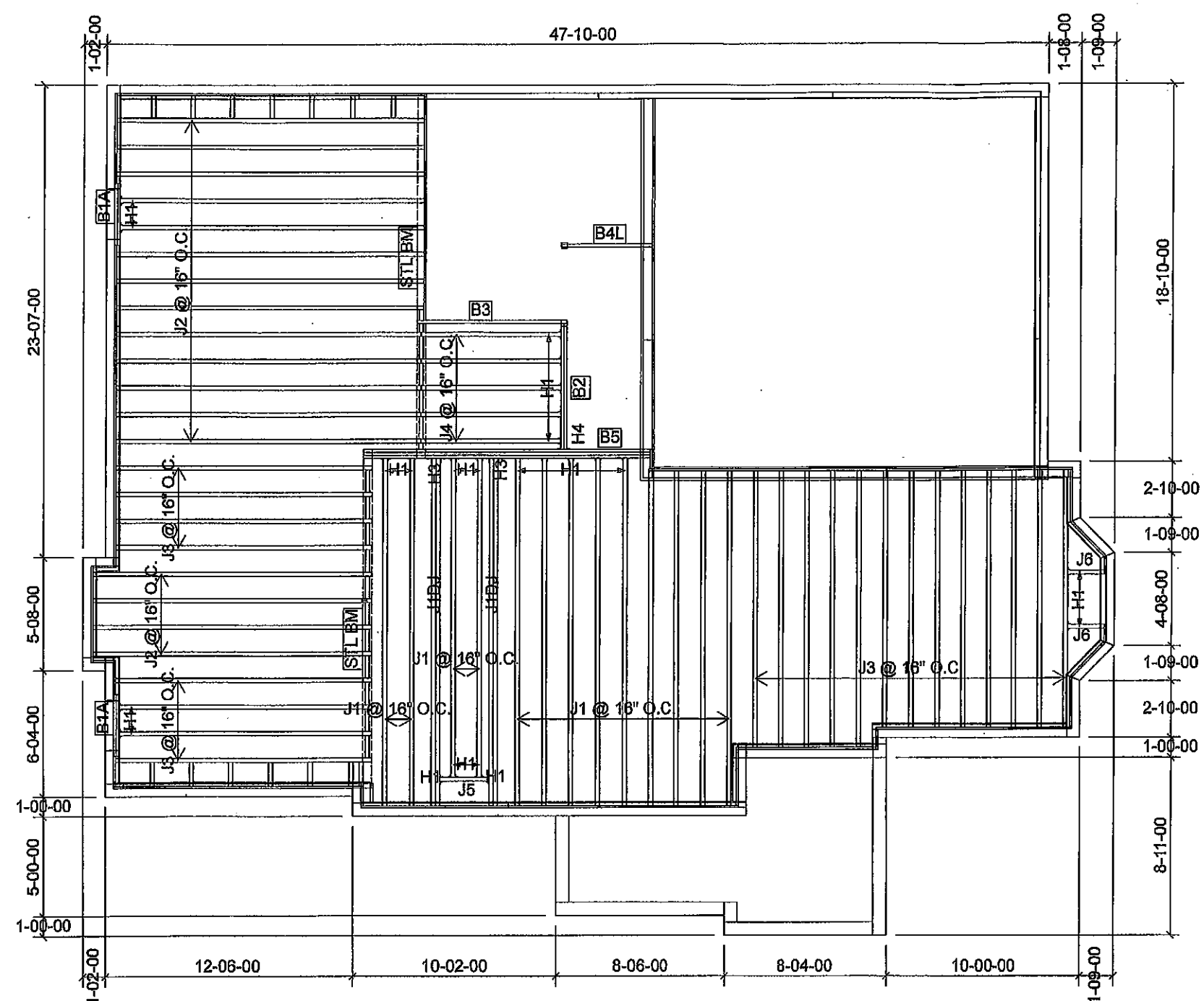
NOTES:
REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REI I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC TIL APPLICATION AS PER O.B.C 9.30.6.

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 20.0 lb/ft²
SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2020-04-16

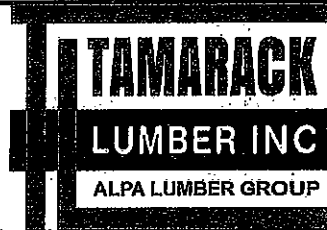
1st FLOOR

DECK CONDITION



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	18-00-00	11 7/8" NI-40x	1	13	MFD
J1DJ	18-00-00	11 7/8" NI-40x	2	4	MFD
J2	16-00-00	11 7/8" NI-40x	1	17	MFD
J3	14-00-00	11 7/8" NI-40x	1	21	MFD
J4	8-00-00	11 7/8" NI-40x	1	5	MFD
J5	4-00-00	11 7/8" NI-40x	1	1	MFD
J6	2-00-00	11 7/8" NI-40x	1	2	MFD
B5	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	MFD
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B2	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B4L	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B1A	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	4	MFD

Connector Summary		
Qty	Manuf	Product
9	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
9	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H3	HU312-2
1	H4	HGUS410



FROM PLAN DATED:

BUILDER: GREENPARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 11

ELEVATION: 3

LOT:

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION:

NOTES:

REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7, TABLES 1 & 2. **CERAMIC TILE** APPLICATION AS PER O.B.C 9.30.6.

LOADING:

DESIGN LOADS: L/480.000

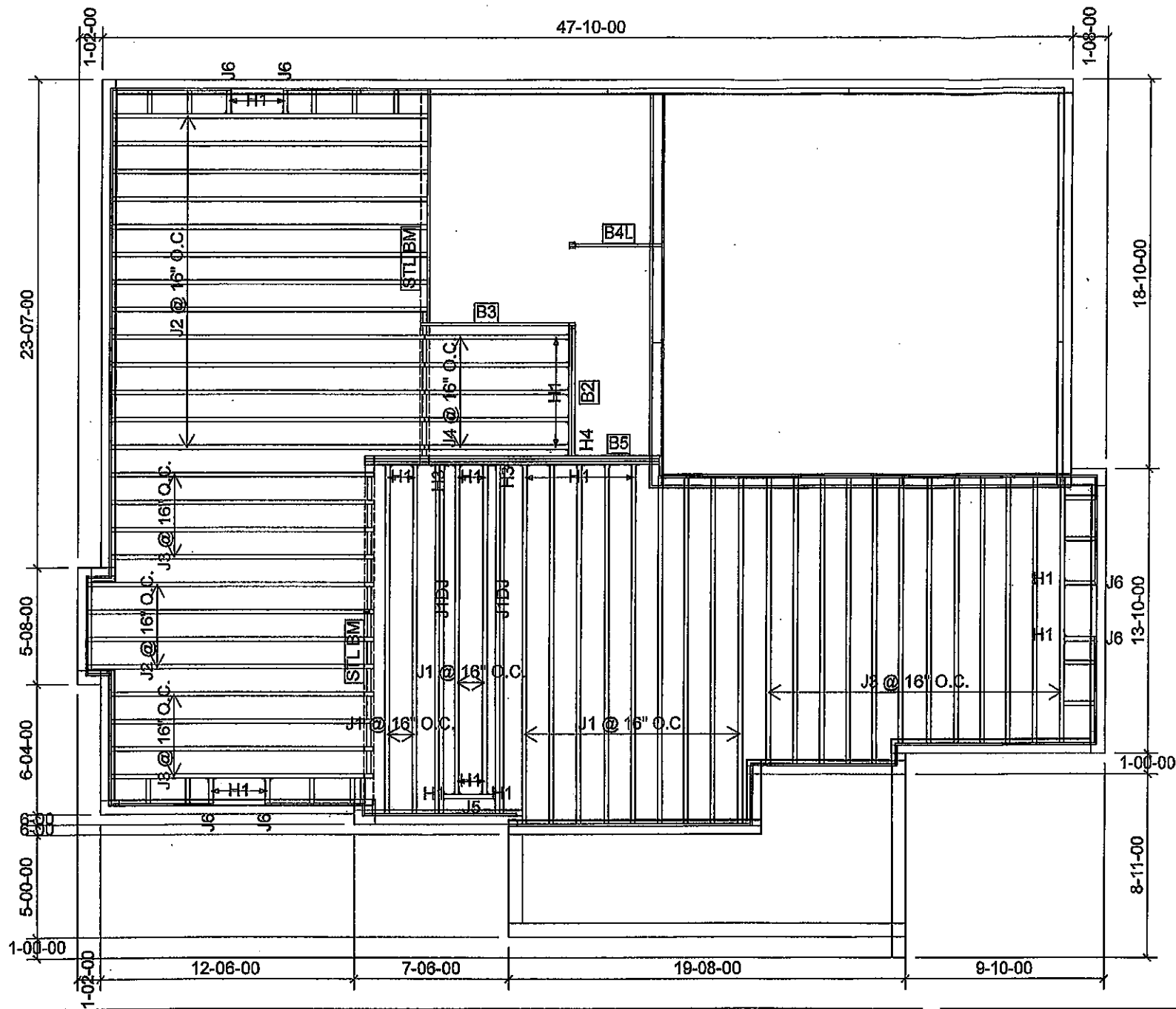
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

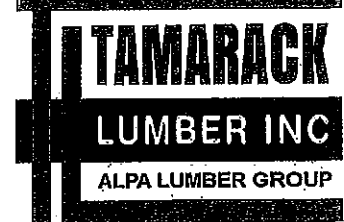
DATE: 2020-02-11

1st FLOOR



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	18-00-00	11 7/8" NI-40x	1	13	MFD
J1DJ	18-00-00	11 7/8" NI-40x	2	4	MFD
J2	16-00-00	11 7/8" NI-40x	1	17	MFD
J3	14-00-00	11 7/8" NI-40x	1	20	MFD
J4	8-00-00	11 7/8" NI-40x	1	5	MFD
J5	4-00-00	11 7/8" NI-40x	1	1	MFD
J6	2-00-00	11 7/8" NI-40x	1	6	MFD
B5	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	MFD
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B2	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B4L	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD

Connector Summary		
Qty	Manuf	Product
5	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
9	H1	IUS2.56/11.88
8	H1	IUS2.56/11.88
2	H3	HU312-2
1	H4	HGUS410



FROM PLAN DATED:
BUILDER: GREENPARK HOMES
SITE: RUSSELL GARDENS PH 3
MODEL: MOUNTAINASH 11
ELEVATION: 3
LOT:
CITY: WATERDOWN
SALESMAN: MARIO DICIANO
DESIGNER: AJ
REVISION:

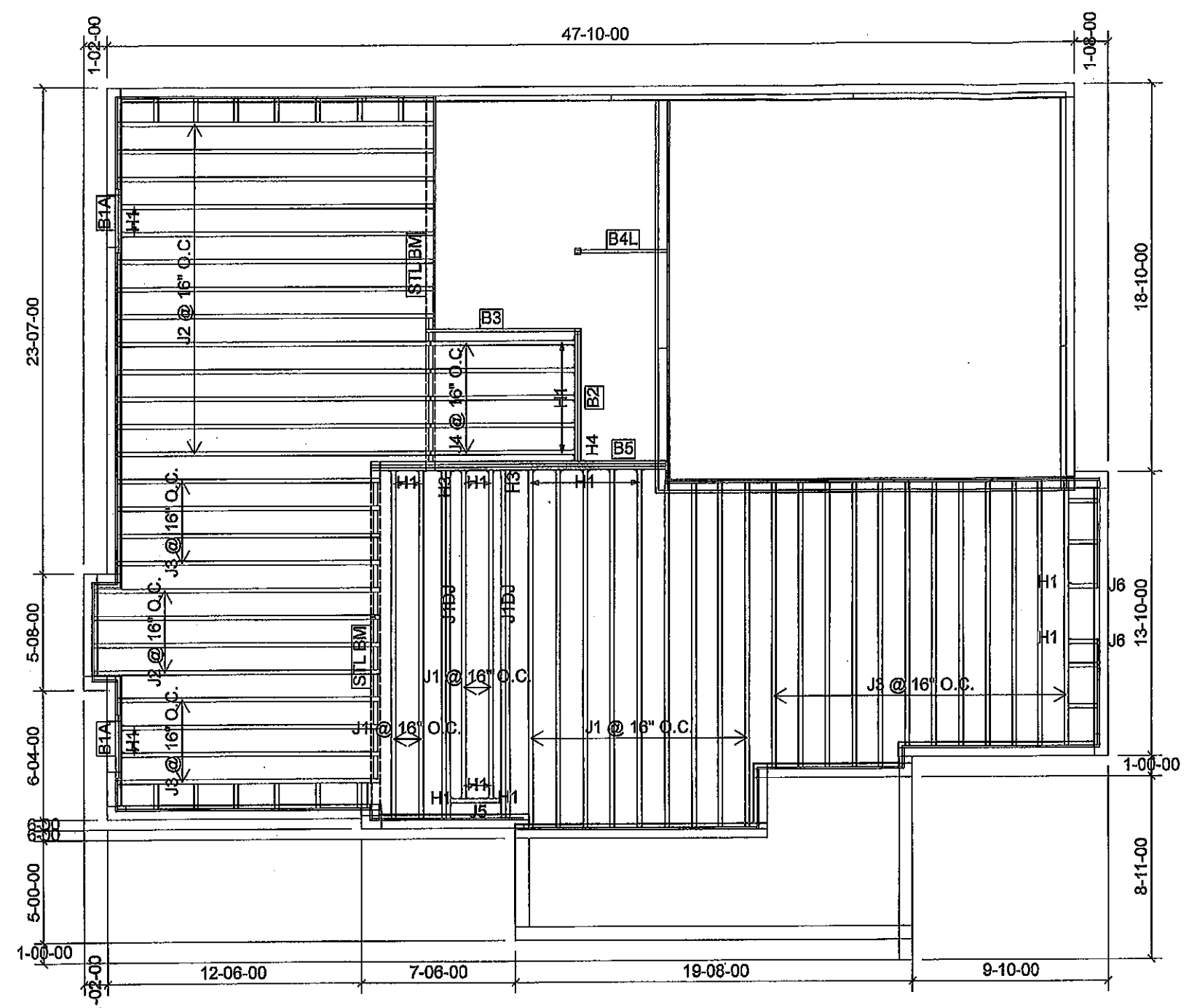
NOTES:
REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING CANT' OVER BRICK RE I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7, TABLES 1 & 2. **CERAMIC TIL** APPLICATION AS PER O.B.C 9.30.6.

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 20.0 lb/ft²
SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2020-04-16

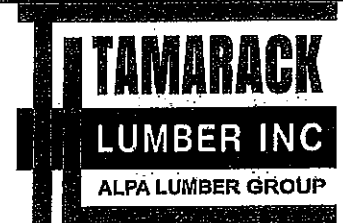
1st FLOOR

DECK CONDITION



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	18-00-00	11 7/8" NI-40x	1	13	MFD
J1DJ	18-00-00	11 7/8" NI-40x	2	4	MFD
J2	16-00-00	11 7/8" NI-40x	1	17	MFD
J3	14-00-00	11 7/8" NI-40x	1	20	MFD
J4	8-00-00	11 7/8" NI-40x	1	5	MFD
J5	4-00-00	11 7/8" NI-40x	1	1	MFD
J6	2-00-00	11 7/8" NI-40x	1	2	MFD
B5	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	MFD
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B2	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B4L	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B1A	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	4	MFD

Connector Summary		
Qty	Manuf	Product
9	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
9	H1	IUS2.56/11.88
4	H1	IUS2.56/11.88
2	H3	HU312-2
1	H4	HGUS410



FROM PLAN DATED:

BUILDER: GREENPARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 11

ELEVATION: 1

LOT:

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION:

NOTES:
REFER TO THE NORDIC **INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. **CERAMIC TILE** APPLICATION AS PER O.B.C. 9.30.6

LOADING:

DESIGN LOADS: L/480.000

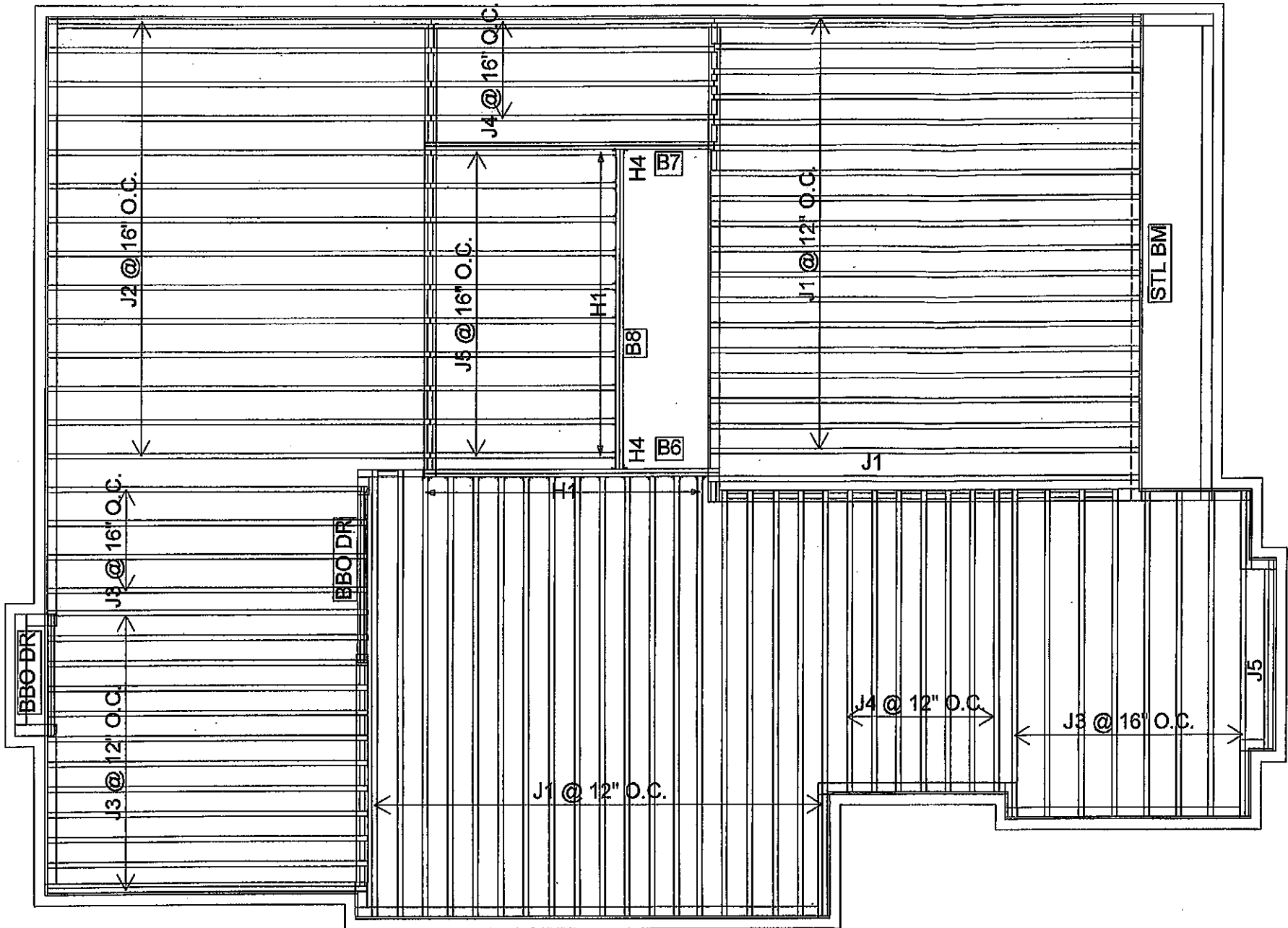
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

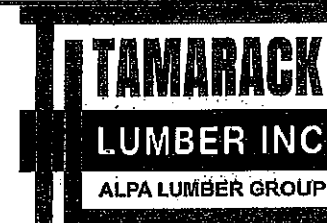
DATE: 2020-02-11

2nd FLOOR



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	18-00-00	11 7/8" NI-40x	1	38	MFD
J2	16-00-00	11 7/8" NI-40x	1	14	MFD
J3	14-00-00	11 7/8" NI-40x	1	24	MFD
J4	12-00-00	11 7/8" NI-40x	1	11	MFD
J5	8-00-00	11 7/8" NI-40x	1	11	MFD
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B6	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B7	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD

Connector Summary		
Qty	Manuf	Product
22	H1	IUS2.56/11.88
2	H4	HGUS410



FROM PLAN DATED:

BUILDER: GREENPARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 11

ELEVATION: 2

LOT:

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION:

NOTES:

REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7, TABLES 1 & 2. **CERAMIC TILE** APPLICATION AS PER O.B.C 9.30.6.

LOADING:

DESIGN LOADS: L/480.000

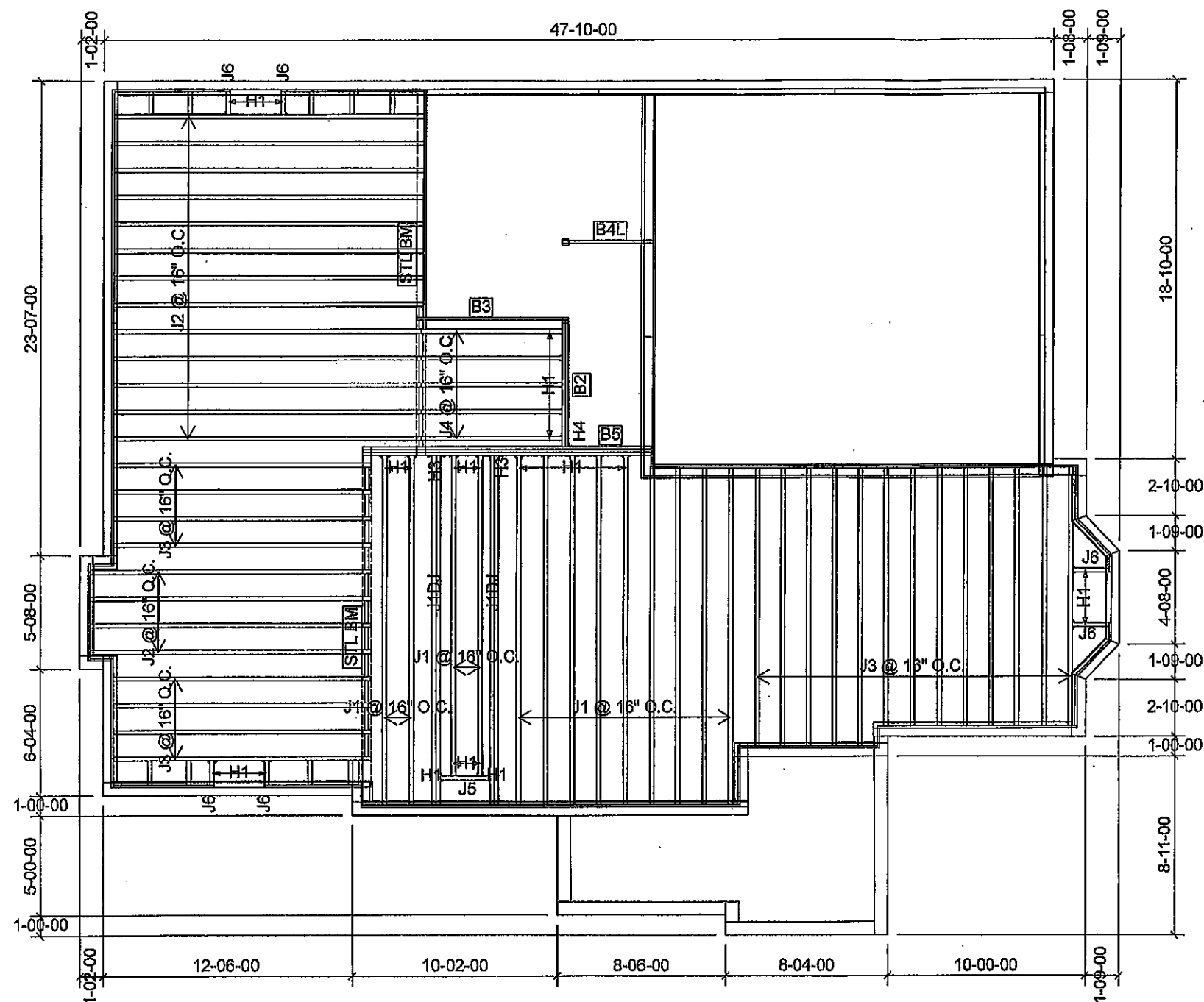
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

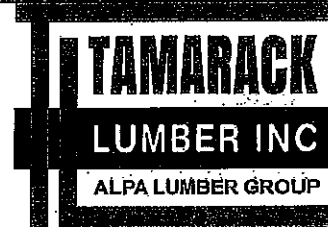
DATE: 2020-02-11

1st FLOOR



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	18-00-00	11 7/8" NI-40x	1	13	MFD
J1DJ	18-00-00	11 7/8" NI-40x	2	4	MFD
J2	16-00-00	11 7/8" NI-40x	1	17	MFD
J3	14-00-00	11 7/8" NI-40x	1	21	MFD
J4	8-00-00	11 7/8" NI-40x	1	5	MFD
J5	4-00-00	11 7/8" NI-40x	1	1	MFD
J6	2-00-00	11 7/8" NI-40x	1	6	MFD
B5	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3	MFD
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD
B2	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B4L	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1	MFD

Connector Summary		
Qty	Manuf	Product
5	H1	IUS2.56/11.88
2	H1	IUS2.56/11.88
9	H1	IUS2.56/11.88
8	H1	IUS2.56/11.88
2	H3	HU312-2
1	H4	HGUS410



FROM PLAN DATED:

BUILDER: GREENPARK HOMES

SITE: RUSSELL GARDENS PH 3

MODEL: MOUNTAINASH 11

ELEVATION: 3

LOT:

CITY: WATERDOWN

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION:

NOTES:
REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. **CERAMIC TILE** APPLICATION AS PER O.B.C. 9.30.6

LOADING:

DESIGN LOADS: L/480.000

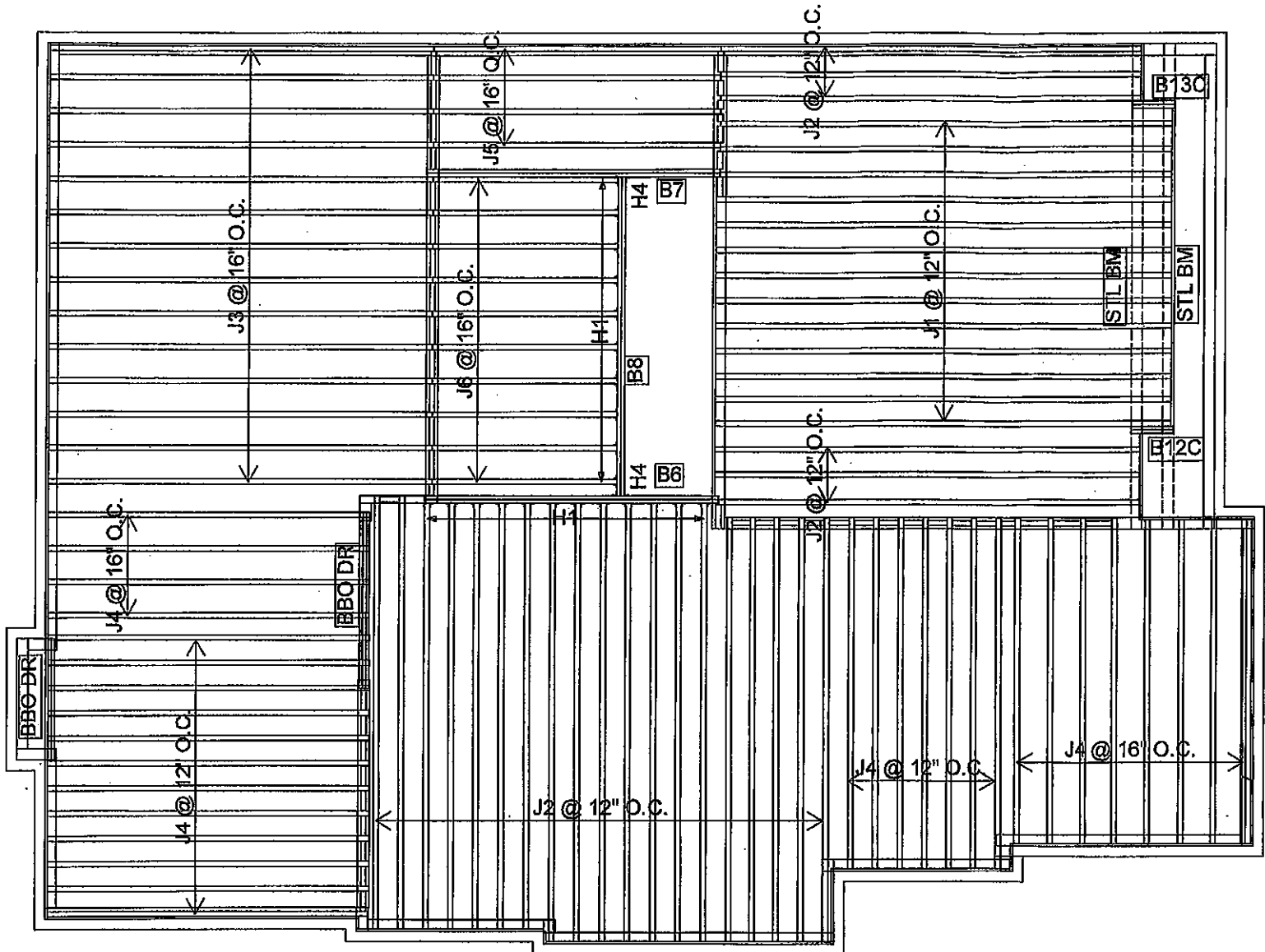
LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

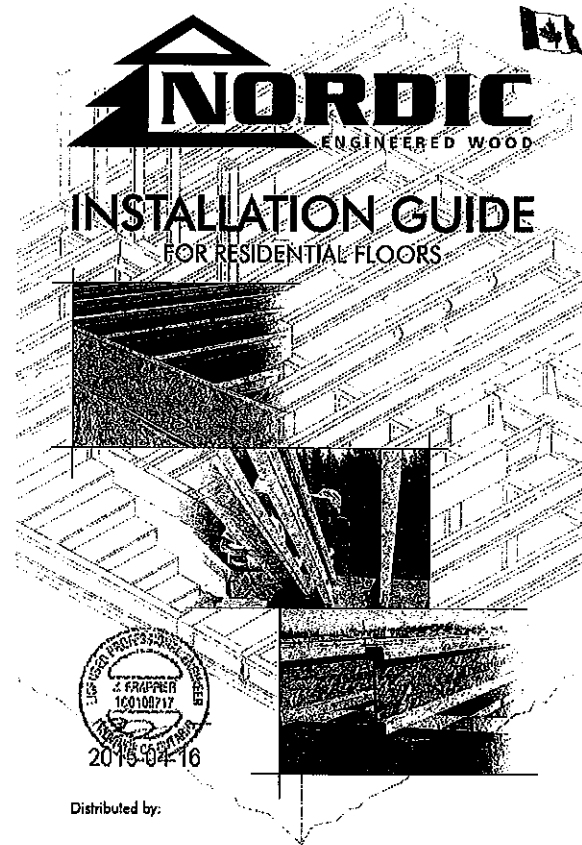
DATE: 2020-02-11

2nd FLOOR



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
J1	20-00-00	11 7/8" NI-40x	1	13	MFD
J2	18-00-00	11 7/8" NI-40x	1	25	MFD
J3	16-00-00	11 7/8" NI-40x	1	14	MFD
J4	14-00-00	11 7/8" NI-40x	1	31	MFD
J5	12-00-00	11 7/8" NI-40x	1	4	MFD
J6	8-00-00	11 7/8" NI-40x	1	10	MFD
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B6	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B7	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B12C	2-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD
B13C	2-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2	MFD

Connector Summary		
Qty	Manuf	Product
22	H1	IUS2.56/11.88
2	H4	HGUS410



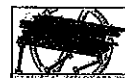
Distributed by:



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 unweathed 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.

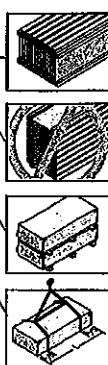
Avoid Accidents by Following these Important Guidelines:

1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at joint ends. When I-joists are applied continuously over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
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-joist rollover or buckling.
3. 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-joist. Nail the bracing to a lateral restraint at the end of each bay. Top ends of adjoining bracing over at least two I-joists.
4. 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.
5. For cantilevered I-joists, brace top and bottom flanges, and brace ends with cleats, panels, rim board, or cross-bracing.
6. 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.
7. 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.

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.
8. Pick I-joists in bundles or shipped by the supplier.
9. Orient the bundles so that the webs of the I-joists are vertical.
10. Pick the bundles at the 5th points, using a spreader bar if necessary.
11. Do not handle I-joists in a horizontal orientation.
12. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.



MAXIMUM FLOOR SPANS

1. Maximum clear spans applicable to single-span or multiple-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 1.5DL + 1.75L. The serviceability limit states include the consideration for floor vibration and a five load deflection limit of L/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
2. Spans are based on a composite floor with glued-nailed oriented 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 CCBS-71.26 Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the use of gypsum and/or a cover of blocking at mid-span.
3. Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
5. This span chart is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.
6. Tables are based on Unit Loads Design per CAN/CSA C08-09 Standard, and NRC 2010.
7. SI units conversion: 1 inch = 25.4 mm, 1 foot = 0.305 m

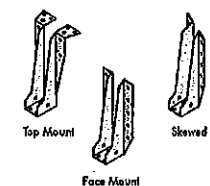
MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS SINGLE AND MULTIPLE SPANS

Joist Depth	Joist Series	Single spans: On center spacing				Multiple spans: On center spacing			
		12'	16'	20'	24'	12'	16'	20'	24'
9-1/2"	N1-20	15'1"	14'3"	12'9"	12'3"	18'3"	16'4"	14'10"	14'2"
	N1-40	16'1"	15'4"	14'0"	14'1"	17'7"	16'7"	15'10"	15'5"
	N1-60	16'1"	15'4"	14'0"	14'1"	17'7"	16'7"	15'10"	15'5"
	N1-80	17'1"	16'1"	15'0"	15'0"	18'7"	17'4"	16'9"	16'10"
11-7/8"	N1-20	16'11"	16'0"	15'5"	15'6"	18'4"	17'3"	16'8"	16'7"
	N1-40	18'1"	17'0"	16'5"	16'6"	20'0"	18'6"	17'9"	17'2"
	N1-60	18'4"	17'3"	16'7"	16'9"	20'3"	18'9"	18'0"	18'11"
	N1-80	19'6"	18'0"	17'4"	17'3"	21'6"	19'11"	19'0"	19'1"
14"	N1-20	19'9"	18'3"	17'4"	17'7"	21'9"	20'2"	19'3"	19'4"
	N1-40	20'2"	18'7"	17'10"	17'11"	22'7"	20'7"	19'8"	19'9"
	N1-60	20'4"	18'9"	17'11"	17'11"	22'9"	20'9"	19'10"	19'11"
	N1-80	20'1"	18'7"	17'10"	17'11"	22'2"	20'6"	19'8"	19'4"
16"	N1-20	20'5"	18'11"	18'1"	18'2"	22'7"	20'11"	20'0"	20'1"
	N1-40	21'7"	20'0"	19'11"	19'2"	23'10"	22'11"	21'11"	21'2"
	N1-60	21'11"	20'3"	19'4"	19'5"	24'3"	22'5"	21'5"	21'6"
	N1-80	22'5"	20'8"	19'9"	19'10"	24'9"	22'10"	21'10"	21'10"
18"	N1-20	22'7"	20'11"	20'11"	20'12"	25'0"	23'1"	22'0"	22'2"
	N1-40	23'9"	22'5"	21'9"	21'10"	26'9"	24'9"	23'9"	23'10"
	N1-60	23'11"	22'11"	21'11"	21'12"	26'11"	24'11"	23'11"	23'11"
	N1-80	24'5"	22'9"	21'9"	21'10"	27'3"	25'2"	24'0"	24'1"

CCBC EVALUATION REPORT L-003-R

I-JOIST HANGERS

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



WEB STIFFENERS

RECOMMENDATIONS:

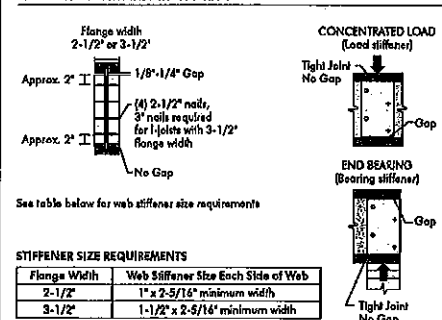
A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the joist properties table found in the Joist Construction Guide (C101). The gap between the stiffener and the flange is at the top.

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 the 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.

SI units conversion: 1 inch = 25.4 mm

FIGURE 2 WEB STIFFENER INSTALLATION DETAILS



See table below for web stiffener size requirements

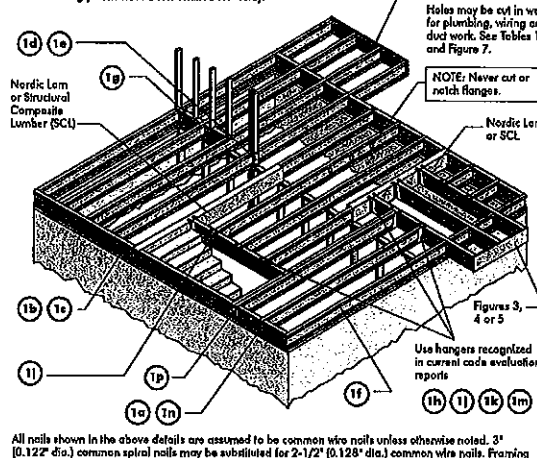
Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

INSTALLING NORDIC I-JOISTS

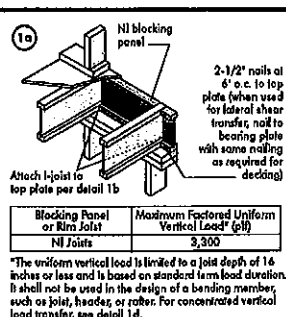
1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, supplier.
2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span applications 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-joist end and a header.
8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the 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-joist's bottom flange. Whenever possible, suspend all concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist webs.
9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with concrete or masonry.
10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squish blocks (straps) to transfer gravity loads through the floor system to the wall or foundation below.
12. Due to shrinkage, common framing lumber not on edge may never be used as blocking or rim boards. I-joist blocking panels or other engineered wood products—such as rim board—must be cut to fit between the I-joists, and on I-joist-compatible depth selected.
13. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension. In the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squeak. 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.

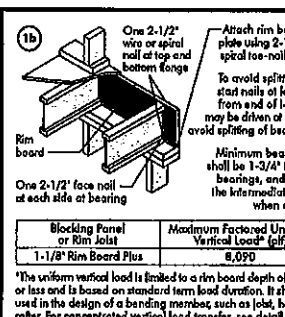


All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (10.125") dia. common spiral nails may be substituted for 2-1/2" (6.35") dia. common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.



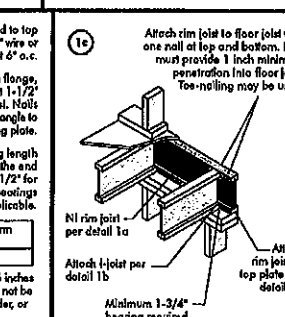
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (q _u)
NI Joists	3,300

*The uniform vertical load is limited to a joist depth of 14 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.



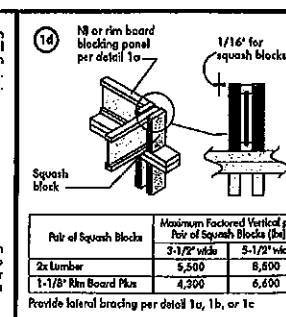
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (q _u)
1-1/8" Rim Board Plus	8,600

*The uniform vertical load is limited to a rim board depth of 14 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.



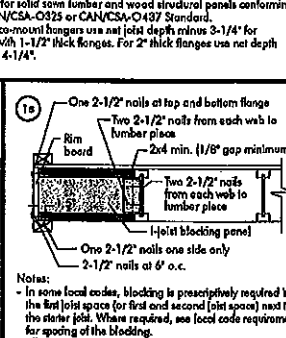
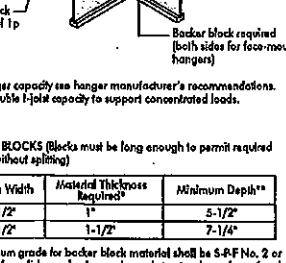
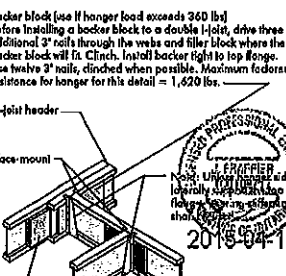
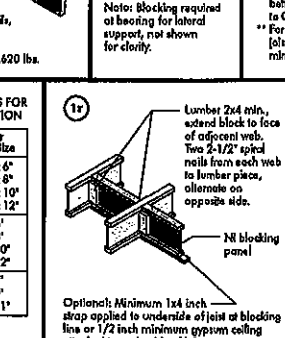
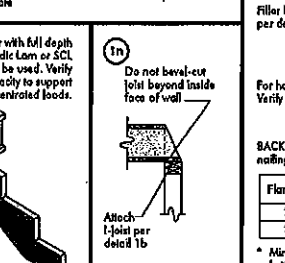
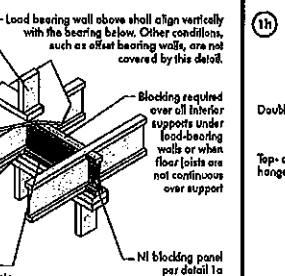
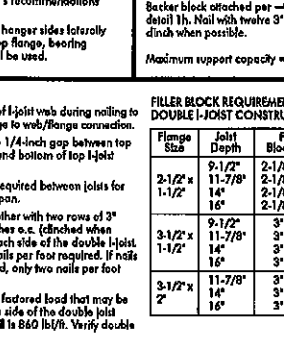
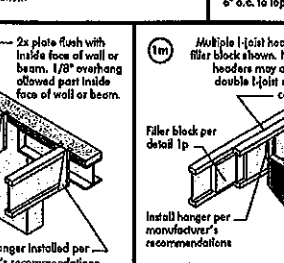
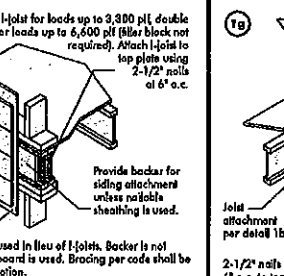
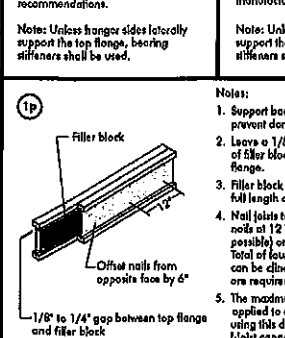
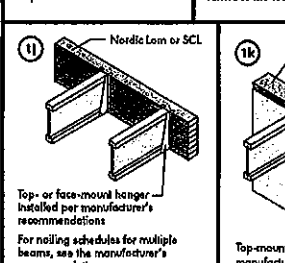
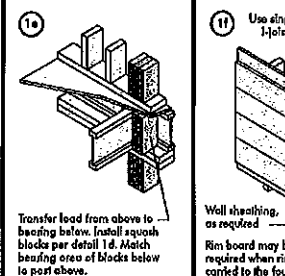
Pair of Squash Blocks	Maximum Factored Vertical Load per Pair of Squash Blocks (q _u)
3-1/2" wide	5,500
5-1/2" wide	8,600
2x Lumber	4,300
1-1/8" Rim Board Plus	6,600

Provide lateral bracing per detail 1a, 1b, or 1c



Pair of Squash Blocks	Maximum Factored Vertical Load per Pair of Squash Blocks (q _u)
3-1/2" wide	5,500
5-1/2" wide	8,600
2x Lumber	4,300
1-1/8" Rim Board Plus	6,600

Provide lateral bracing per detail 1a, 1b, or 1c



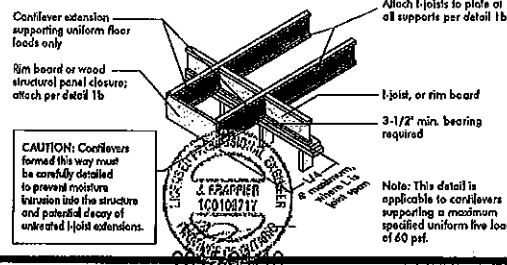
Notes:
- In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of blocking.
- All nails are common spiral in this detail.

FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

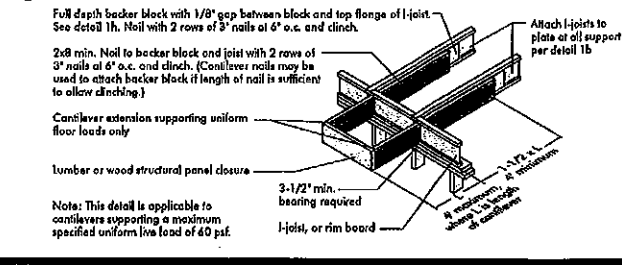
Flange Size	Joist Depth	Filler Block Size
2-1/2" x 1-1/2"	9-1/2"	2-1/8" x 6"
	11-7/8"	2-1/8" x 8"
	14"	2-1/8" x 10"
	16"	2-1/8" x 12"
3-1/2" x 1-1/2"	9-1/2"	3" x 6"
	11-7/8"	3" x 8"
	14"	3" x 10"
	16"	3" x 12"
3-1/2" x 2"	11-7/8"	3" x 7"
	14"	3" x 9"
	16"	3" x 11"

CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

2a I-JOIST CANTILEVER DETAIL FOR BALCONIES (No Wall Load)

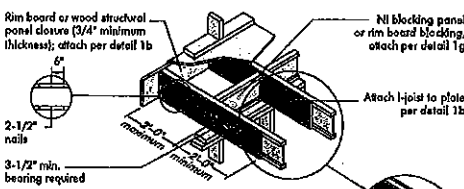


2b LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load)



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

2a 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\"/>

2b Alternate Method 2 — DOUBLE I-JOIST

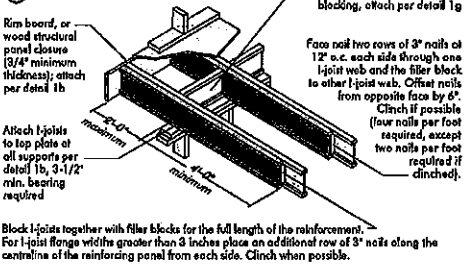
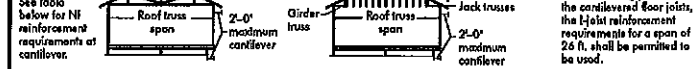


FIGURE 4 (continued)



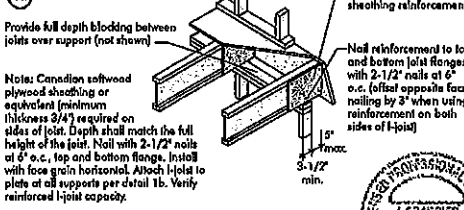
CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	JOIST SPACING (in.)	REINFORCEMENT METHODS ALLOWED									
		1	2	3	4	5	6	7	8	9	10
9-1/2"	12	N	N	N	N	N	N	N	N	N	N
	16	N	N	N	N	N	N	N	N	N	N
	20	N	N	N	N	N	N	N	N	N	N
	24	N	N	N	N	N	N	N	N	N	N
11-7/8"	12	N	N	N	N	N	N	N	N	N	N
	16	N	N	N	N	N	N	N	N	N	N
	20	N	N	N	N	N	N	N	N	N	N
	24	N	N	N	N	N	N	N	N	N	N
14"	12	N	N	N	N	N	N	N	N	N	N
	16	N	N	N	N	N	N	N	N	N	N
	20	N	N	N	N	N	N	N	N	N	N
	24	N	N	N	N	N	N	N	N	N	N
16"	12	N	N	N	N	N	N	N	N	N	N
	16	N	N	N	N	N	N	N	N	N	N
	20	N	N	N	N	N	N	N	N	N	N
	24	N	N	N	N	N	N	N	N	N	N

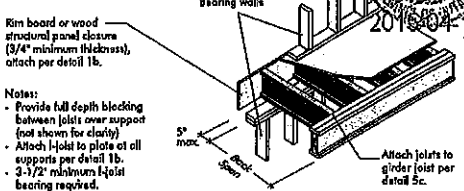
- N = No reinforcement required.
- Ni reinforced with 3/4" wood structural panel on one side of the cantilever.
- Ni reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- Try a deeper joist or closer spacing.
- Maximum design load shall be 15 psf dead load, 55 psf floor total load, and 80 psf wall load. Wall load is based on 3'-0" maximum width window or door openings.
- For larger openings, or multiple 3'-0" wide openings spaced less than 6'-0" o.c., additional joists between the opening's edge studs may be required.
- Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480. Use 12" o.c. requirements for lesser spacing.
- For conventional roof construction using a ridge beam, the Roof Truss Span column shows the equivalent distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
- Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

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

2a SHEATHING REINFORCEMENT



2b SET-BACK DETAIL



2c SET-BACK CONNECTION

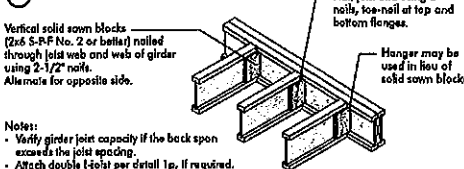


FIGURE 5 (continued)



BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in.)	JOIST SPACING (in.)	REINFORCEMENT METHODS ALLOWED									
		1	2	3	4	5	6	7	8	9	10
9-1/2"	12	N	N	N	N	N	N	N	N	N	N
	16	N	N	N	N	N	N	N	N	N	N
	20	N	N	N	N	N	N	N	N	N	N
	24	N	N	N	N	N	N	N	N	N	N
11-7/8"	12	N	N	N	N	N	N	N	N	N	N
	16	N	N	N	N	N	N	N	N	N	N
	20	N	N	N	N	N	N	N	N	N	N
	24	N	N	N	N	N	N	N	N	N	N
14"	12	N	N	N	N	N	N	N	N	N	N
	16	N	N	N	N	N	N	N	N	N	N
	20	N	N	N	N	N	N	N	N	N	N
	24	N	N	N	N	N	N	N	N	N	N
16"	12	N	N	N	N	N	N	N	N	N	N
	16	N	N	N	N	N	N	N	N	N	N
	20	N	N	N	N	N	N	N	N	N	N
	24	N	N	N	N	N	N	N	N	N	N

- N = 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.
- Try a deeper joist or closer spacing.
- Maximum design load shall be 15 psf dead load, 55 psf floor total load, and 80 psf wall load. Wall load is based on 3'-0" maximum width window or door openings.
- For larger openings, or multiple 3'-0" wide openings spaced less than 6'-0" o.c., additional joists between the opening's edge studs may be required.
- Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480. Use 12" o.c. requirements for lesser spacing.
- For conventional roof construction using a ridge beam, the Roof Truss Span column shows the equivalent distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
- Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

WEB HOLES

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS

- The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Tables 1 or 2, respectively.
- I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
- Whenever possible, full-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 longest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
- A knockout is not considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller shall be 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 of approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

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

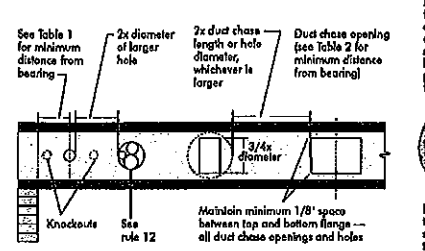
Joist Depth (in.)	Joist Series	Minimum distance from inside face of any support to centre of hole (ft/in.)										Span adjustment Factor
		2	3	4	5	6	7	8	9	10	11	
9-1/2"	N-120	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-240	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
11-7/8"	N-120	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-240	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
14"	N-120	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-240	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
16"	N-120	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-160	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-200	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0
	N-240	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	1.0

- Along table may be used for I-joist spacing of 24 inches on centre or less.
- Hole location distance is measured from inside face of support to centre of hole.
- 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 Manufacturer's literature for details), the minimum distance from the centreline of the hole to the face of the support may be reduced as follows:
Reduced = $\frac{\text{Actual Span}}{\text{Full Span}} \times \text{Table Value}$
Where: Reduced = Distance from the inside face of any support to centre of hole, reduced for less-than-maximum span application.
Actual = The actual measured span distance between the inside faces of supports (ft).
SF = 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 Actual is greater than 1, use 1 in the above calculation for Reduced.

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 preformed 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 flange, 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.

INSTALLING THE GLUED FLOOR SYSTEM

- Wipe any mud, dirt, water or ice from I-joist flanges before gluing.
- Snap a chalk line across the I-joists four feet in from the wall for panel edge alignment and as a backup for spreading glue.
- Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
- Lay the first panel with tongue side to the wall, and nail in place. This protects the tongue of the next panel from damage when lapped into place with a block and adze/puller.
- 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.
- Apply two lines of glue on I-joists where panel ends butt to ensure proper gluing of each end.
- After the first row of panels is in place, spread glue in the groove of one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeezing-out by applying a thinner line (1/8 inch) than used on I-joist flanges.
- Tap the second row of panels into place, using a block to protect groove edges.
- Stagger end joints in each successive 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 on 2-1/2" common nail to ensure accurate and consistent spacing.)
- Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations for cure time. (Warm weather accelerates glue setting.) Use 2" rings or screw-shank nails for panels 3/4-inch thick or less, and 2-1/2" rings or screw-shank nails for thicker panels. Space nails per the table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the glue bond.

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

Minimum Joist Spacing (in.)	Minimum Panel Thickness (in.)	Common Wire or Spiral Nails	Nail Size and Type		Maximum Spacing of Fasteners	
			Rings, Rings, Nails, or Screws	Staples	Edges	Interior Supports
16	5/8	2"	1-3/4"	2"	6'	12'
20	5/8	2"	1-3/4"	2"	6'	12'
24	3/4	2"	1-3/4"	2"	6'	12'

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

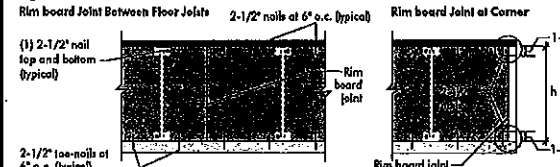
Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

IMPORTANT NOTE:

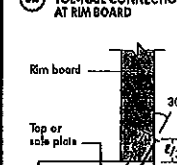
Floor sheathing must be field glued to the I-joist flanges in order to achieve the maximum spans shown in this document. If anything is nailed only, I-joist spans must be verified with your local distributor.

RIM BOARD INSTALLATION DETAILS

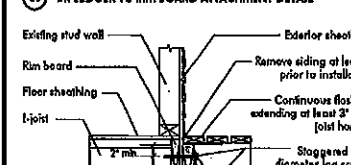
2a ATTACHMENT DETAILS WHERE RIM BOARDS ADJUT



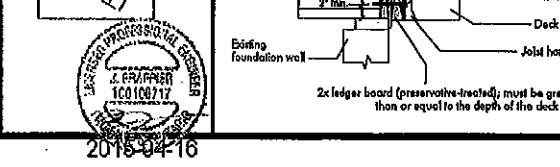
2b TOE-NAIL CONNECTION AT RIM BOARD



2c 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL



2d 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL



PRODUCT WARRANTY



OSB CANADA

OSB Canada warrants that its products are free from manufacturing defects in material and workmanship.

Furthermore, OSB Canada warrants that its products, when utilized in accordance with our building and installation instructions, will meet or exceed our specifications for the life of the structure.

2X LEDGER TO RIM BOARD ATTACHMENT DETAIL



2x ledger board (pressure-treated); must be greater than or equal to the depth of the deck joist



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

WEB HOLE SPECIFICATIONS

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

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

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

- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
- All holes and duct chase openings shall be cut in a 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 of approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

**TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS**

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

Joist Depth	Joist Series	Minimum Distance from Inside Face of Any Support to Centre of Hole (ft - in.)											
		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"	5-5"	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"	4-9"	6-3"	8-0"	8-4"	---	---	---	---	---	---
	NI-80	2-8"	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"	5-6"	7-0"	7-5"	---	---
	NI-40x	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	5-6"	7-0"	7-5"	---	---
	NI-60	0-7"	1-8"	3-0"	4-3"	5-5"	6-0"	7-3"	8-10"	10-0"	---	---	---
	NI-70	1-3"	2-6"	4-0"	5-4"	6-8"	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"	1-0"	2-4"	3-8"	4-0"	5-0"	5-6"	7-0"	7-5"	---	---
	NI-40x	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	5-6"	7-0"	7-5"	---	---
	NI-60	0-7"	1-8"	3-0"	4-3"	5-5"	6-0"	7-3"	8-10"	10-0"	---	---	---
	NI-70	1-3"	2-6"	4-0"	5-4"	6-8"	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"	---	---	---
16"	NI-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	5-6"	7-0"	7-5"	---	---
	NI-40x	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	5-6"	7-0"	7-5"	---	---
	NI-60	0-7"	1-8"	3-0"	4-3"	5-5"	6-0"	7-3"	8-10"	10-0"	---	---	---
	NI-70	1-3"	2-6"	4-0"	5-4"	6-8"	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"	---	---	---

- Above table may be used for I-joint 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-joints being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

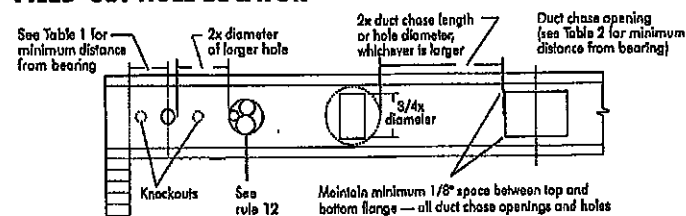
**TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS**

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			
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"	5-6"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"			
	NI-60	5-4"	5-9"	6-2"	6-7"	7-1"	7-5"	8-0"	8-5"	8-9"			
	NI-70	5-1"	5-5"	5-10"	6-3"	6-7"	7-1"	7-6"	8-1"	8-4"			
	NI-80	5-2"	5-6"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"			
11-7/8"	NI-20	6-8"	6-2"	6-6"	7-1"	7-5"	8-3"	8-9"	9-4"	9-8"			
	NI-40x	6-8"	7-2"	7-6"	8-1"	8-5"	9-3"	9-9"	10-3"	10-9"			
	NI-60	7-3"	7-8"	8-0"	8-6"	9-0"	9-3"	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"	11-1"			
	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"	10-6"	11-1"	11-6"	12-0"			
	NI-70	8-9"	9-3"	9-8"	10-1"	10-6"	11-1"	11-6"	12-0"	12-5"			
	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"	9-5"	9-9"	10-1"	10-7"	11-1"	11-6"	12-1"	12-6"			
	NI-40x	9-2"	9-8"	10-0"	10-6"	10-11"	11-5"	11-9"	12-4"	12-11"			
	NI-60	9-4"	9-9"	10-3"	10-7"	11-1"	11-7"	12-1"	12-7"	13-2"			
	NI-70	10-3"	10-8"	11-2"	11-6"	12-1"	12-6"	13-0"	13-5"	14-0"			
	NI-80	10-1"	10-5"	11-0"	11-4"	11-10"	12-3"	12-8"	13-3"	14-0"			

- Above table may be used for I-joint 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 1/400.
- The above table is based on the I-joints 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 precast holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on centre along the length of the I-joint. Where possible, it is preferable to use knockouts instead of field-cut holes.

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

Holes in webs should be cut with a sharp saw.

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

SAFETY AND CONSTRUCTION PRECAUTIONS



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



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

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

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

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

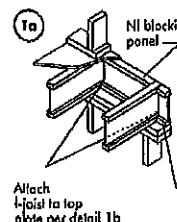
Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joints, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines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



PRODUCT WARRANTY

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

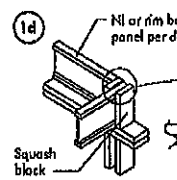
Furthermore, Chambers Construction warrants that our products, when utilized in accordance with our handling and installation instructions, will meet or exceed our specifications for the lifetime of the structure.



Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (psf)
NI Joists	3,300

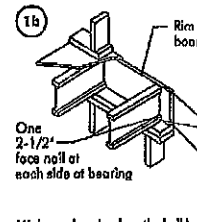
*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

Attach I-joint to top plate per detail 1b



Pair of Squash Blocks	Maximum Factored Uniform Vertical Load per Pair of Squash Blocks (lbs)
2x Lumber	3-1/2" wide: 5,500 5-1/2" wide: 6,500
1-1/8" Rim Board Plus	4,300 6,400

Provide lateral bracing per detail 1a or 1b



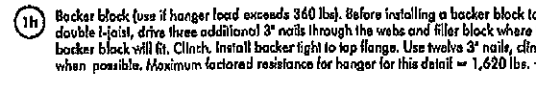
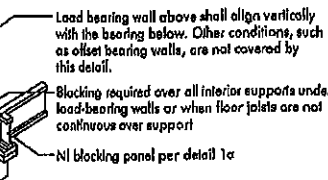
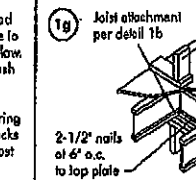
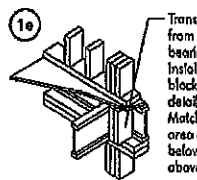
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (psf)
1-1/8" Rim Board Plus	6,090

*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.

- One 2-1/2" wire or spiral nail at top and bottom flange
- Attach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c.

To avoid splitting flange, start nails at least 1-1/2" from end of I-joint. Nails may be driven at an angle to avoid splitting of bearing plate.

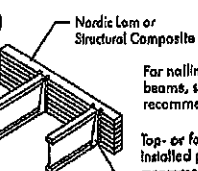
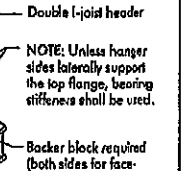
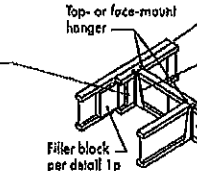
Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable.



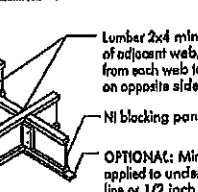
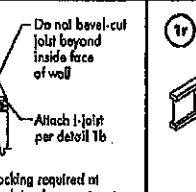
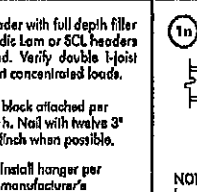
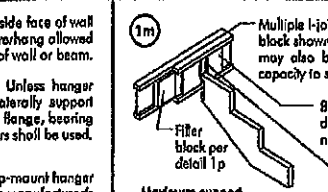
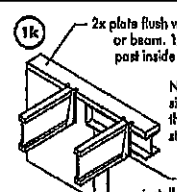
Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

* Minimum grade for backer block material shall be 3-RF No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-C325 or CAN/CSA-O437 Standard.

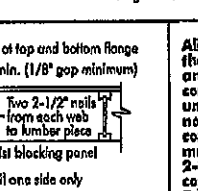
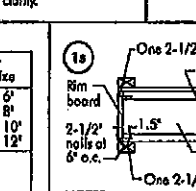
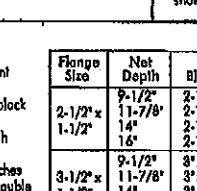
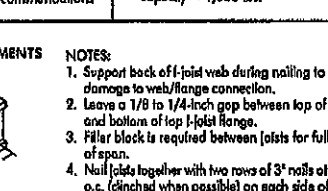
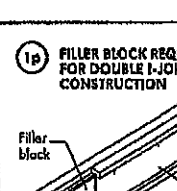
** For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use net depth minus 4-1/4".



For nailing schedules for multiple beams, see the manufacturer's recommendations.



OPTIONAL: Minimum 1x4 inch strip applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joist.



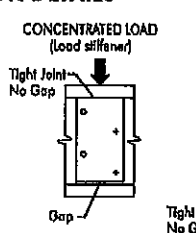
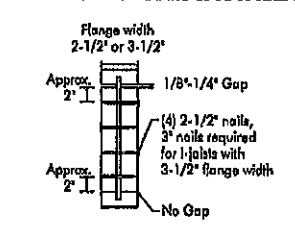
All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual requirements not shown to scale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

WEB STIFFENERS

RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joint properties table found in the I-joint Construction Guide (C10). The gap between the stiffener and the flange is at the top.
- A bearing stiffener is required when the I-joint 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.

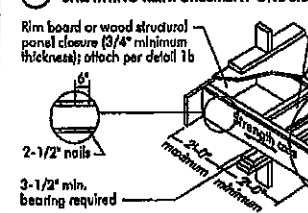
**FIGURE 2
WEB STIFFENER INSTALLATION DETAILS**



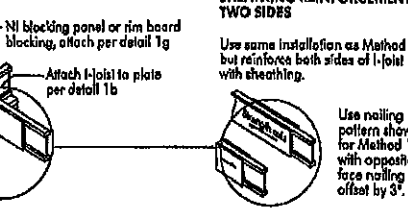
STIFFENER SIZE REQUIREMENTS	
Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

Method 1 — SHEATHING REINFORCEMENT ON ONE SIDE



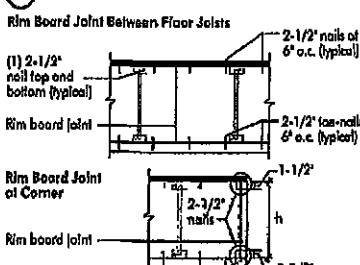
Method 2 — SHEATHING REINFORCEMENT TWO SIDES



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-joint to plate at all supports per detail 1b. Verify reinforced I-joint capacity.

RIM BOARD INSTALLATION DETAILS

ATTACHMENT DETAILS WHERE RIM BOARDS ABUT



NORDIC STRUCTURES

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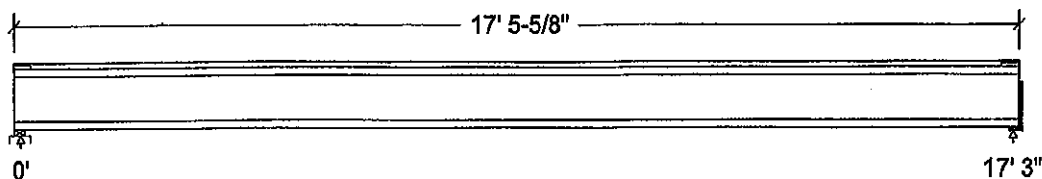
PROJECT
J1 1ST FLOOR.wvb

Design Check Calculation Sheet Nordic Sizer - Canada 7.2

Loads:

Load	Type	Distribution	Pat- tern	Location [ft] Start End	Magnitude Start End	Unit
Load1	Dead	Full Area			20.00	psf
Load2	Live	Full Area			40.00	psf

Maximum Reactions (lbs) and Support Bearing (In):



Unfactored:			
Dead	230		230
Live	460		460
Factored:			
Total	978		978
Bearing:			
Capacity			
Joist	2101		2048
Support	3971		-
Des ratio			
Joist	0.47		0.48
Support	0.25		-
Load case	#2		#2
Length	2-3/8		2
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	1.00		-
fcp sup	769		-
Kzcp sup	1.09		-

Nordic 11-7/8" NI-40x Floor joist @ 16" o.c.

Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Hanger;

Total length: 17' 5-5/8"; Clear span: 17' 1-1/4"; 3/4" nailed and glued OSB sheathing

This section **PASSES** the design code check.

Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 978	Vr = 2336	lbs	Vf/Vr = 0.42
Moment (+)	Mf = 4216	Mr = 6255	lbs-ft	Mf/Mr = 0.67
Perm. Defl'n	0.13 = < L/999	0.57 = L/360	in	0.23
Live Defl'n	0.26 = L/790	0.43 = L/480	in	0.61
Total Defl'n	0.39 = L/526	0.86 = L/240	in	0.46
Bare Defl'n	0.32 = L/652	0.57 = L/360	in	0.55
Vibration	Lmax = 17'-3	Lv = 18'-1.3	ft	0.95
Defl'n	= 0.031	= 0.036	in	0.86



FIG NO. TAN 6001-2D
STRUCTURAL
COMPONENT ONLY

P6/6

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#2
EI	371.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls _=no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:E_{ieff} = 459.76 lb-in² K= 6.18e06 lbs

"Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO OBC 2012

AMENDED 2020

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



ONE NO. 1A 6001-20
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES

COMPANY
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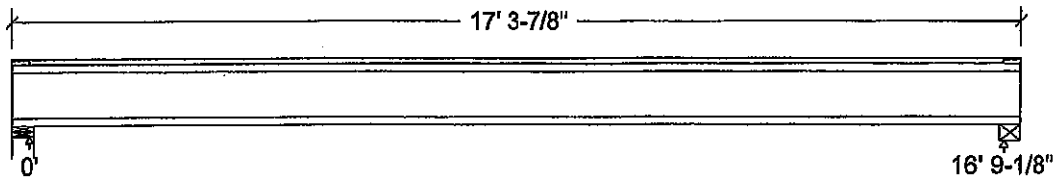
PROJECT
J1 2ND FLOOR.wvb

Design Check Calculation Sheet Nordic Sizer – Canada 7.2

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start End	Magnitude Start End	Unit
Load1	Dead	Full Area			20.00	psf
Load2	Live	Full Area			40.00	psf

Maximum Reactions (lbs) and Support Bearing (in):



Unfactored:			
Dead	168		168
Live	335		335
Factored:			
Total	712		712
Bearing:			
Capacity			
Joist	2336		2336
Support	7735		-
Des ratio			
Joist	0.30		0.30
Support	0.09		-
Load case	#2		#2
Length	4-3/8		4-1/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
KD	1.00		1.00
KB support	-		-
fcp sup	769		-
Kzcp sup	-		-

Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

Nordic 11-7/8" NI-40x Floor Joist @ 12" o.c.

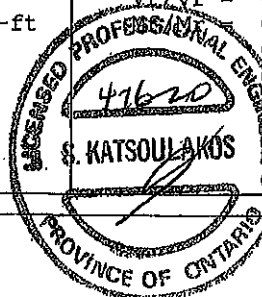
Supports: 1 - Lumber Wall, No.1/No.2; 2 - Steel Beam, W;

Total length: 17' 3-7/8"; Clear span: 16' 7-3/8"; 5/8" nailed and glued OSB sheathing

This section PASSES the design code check.

Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 712	Vr = 2336	lbs	Vf/Vr = 0.30
Moment(+)	Mf = 2985	Mr = 6255	lbs-ft	0.48
Perm. Defl'n	0.09 = < L/999	0.56 = L/360	in	0.17
Live Defl'n	0.19 = < L/999	0.42 = L/480	in	0.44
Total Defl'n	0.28 = L/721	0.84 = L/240	in	0.33
Bare Defl'n	0.21 = L/943	0.56 = L/360	in	0.38
Vibration	Lmax = 16'-9.1	Lv = 18'-3.6	ft	0.92
Defl'n	= 0.029	= 0.038	in	0.76



OWN NO. TAM 6002-20
STRUCTURAL
COMPONENT ONLY

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#2
EI	371.1 million	-	-	-	-	-	-	-	#2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls _=no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:E_{ieff} = 432.91 lb-in² K= 6.18e06 lbs

"Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO OBC 2012

AMENDED 2020

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



DWG NO. TAW 6002-20
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES

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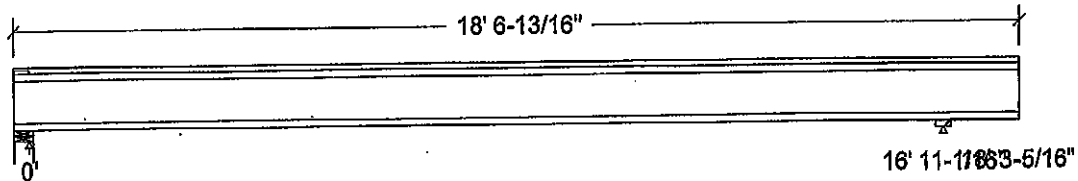
PROJECT
J1 2ND FLOOR EL 3 ABOVE GARAGE.wwb

Design Check Calculation Sheet Nordic Sizer - Canada 7.2

Loads:

Load	Type	Distribution	Pat- tern	Location [ft] Start End	Magnitude Start End	Unit
Load1	Dead	Full Area	No		20.00	psf
Load2	Live	Full Area	Yes		40.00	psf

Maximum Reactions (lbs) and Support Bearing (in):



Unfactored:			
Dead	168		197
Live	338		395
Factored:			
Total	718		839
Bearing:			
Capacity			
Joist	2336		4734
Support	7744		-
Des ratio			
Joist	0.31		0.18
Support	0.09		-
Load case	#4		#2
Length	4-3/8		3-1/2
Min req'd	1-3/4		3-1/2
Stiffener	No		No
KD	1.00		1.00
KB support	-		-
fcp sup	769		-
Kzcp sup	-		-

Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

Nordic 11-7/8" NI-40x Floor joist @ 12" o.c.

Supports: 1 - Lumber Wall, No.1/No.2; 2 - Non-wood;

Total length: 18' 6-13/16"; Clear span: 16' 8-7/16", 1' 2-1/2"; 5/8" nailed and glued OSB sheathing

This section **PASSES** the design code check.



96 1/2
DWG NO. TAM6003-20
STRUCTURAL
COMPONENT ONLY

Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 724	Vr = 2336	lbs	Vf/Vr = 0.31
Moment(+)	Mf = 3031	Mr = 6255	lbs-ft	Mf/Mr = 0.48
Moment(-)	Mf = 78	Mr = 4065	lbs-ft	Mf/Mr = 0.02
Deflection:				
Interior Perm	0.09 = < L/999	0.56 = L/360	in	0.17
Live	0.19 = < L/999	0.42 = L/480	in	0.46
Total	0.29 = L/706	0.85 = L/240	in	0.34
Cantil. Perm	-0.02 = L/765	0.09 = L/180	in	0.24
Live	-0.04 = L/372	0.07 = L/240	in	0.64
Total	-0.06 = L/250	0.14 = L/120	in	0.48
Bare Defl'n	-0.05 = L/319	0.09 = L/180	in	0.56
Vibration	Lmax = 16'-11.1	Lv = 18'-3.6	ft	0.92
Defl'n	= 0.029	= 0.037	in	0.79

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#4
Mr-	6255	0.65	1.00	-	1.000	-	-	-	#5
EI	371.1 million	-	-	-	-	-	-	-	#4

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #4 = 1.25D + 1.5L (pattern: L₋)Moment(-) : LC #5 = 1.25D + 1.5L (pattern: L₋)

Deflection: LC #1 = 1.0D (permanent)

LC #4 = 1.0D + 1.0L (pattern: L₋) (live)LC #4 = 1.0D + 1.0L (pattern: L₋) (total)LC #4 = 1.0D + 1.0L (pattern: L₋) (bare joist)Bearing : Support 1 - LC #4 = 1.25D + 1.5L (pattern: L₋)

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake

L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls =no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

CALCULATIONS:E_Ieff = 432.91 lb-in² K= 6.18e06 lbs

"Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO OBC 2012

AMENDED 2020

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



NO. TAM 6003-20
STRUCTURAL
COMPONENT ONLY

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

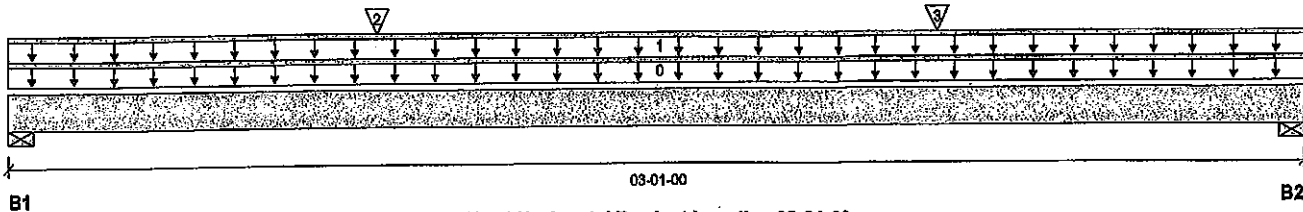
File name: MOUNTAINASH 11 EL 1 DECK CONDITION.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B1A(i2428)

Specifier:

Designer: AJ

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	897 / 0	592 / 0		
B2, 3"	896 / 0	591 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top		12			00-00-00
1	E5(i390)	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	Top	312	236			n/a
2	J2(i2342)	Conc. Pt. (lbs)	L	00-10-08	00-10-08	Top	416	208			n/a
3	J2(i2288)	Conc. Pt. (lbs)	L	02-02-08	02-02-08	Top	416	208			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1322 ft-lbs	35392 ft-lbs	3.7%	1	01-08-08
End Shear	1549 lbs	14464 lbs	10.7%	1	01-02-14
Total Load Deflection	L/999 (0.001")	n/a	n/a	4	01-06-08
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	01-06-08
Max Defl.	0.001"	n/a	n/a	4	01-06-08
Span / Depth	2.7				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 3" x 3-1/2"	2084 lbs	32.3%	16.3%	Spruce-Pine-Fir
B2	Wall/Plate 3" x 3-1/2"	2083 lbs	32.2%	16.3%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

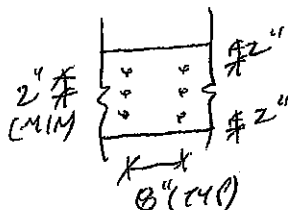
Resistance Factor phi has been applied to all presented results per CSA O86. AMENDED 2020

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 8" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



DWG NO. TAM 6004-20

STRUCTURAL

DISCLOSURE COMPONENT ONLY

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report

Build 7239

Job name:

File name: MOUNTAINASH 11 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B6(I2215)

City, Province, Postal Code:

Specifier:

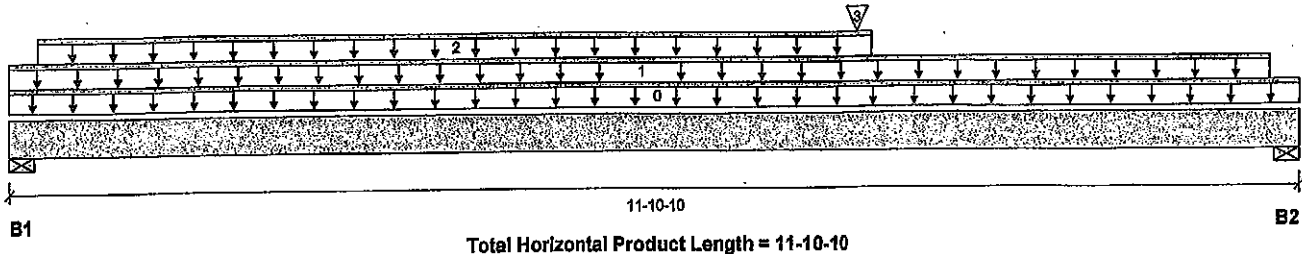
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 6-1/8"	2617 / 0	1409 / 0		
B2, 5-1/2"	2647 / 0	1449 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-10-10	Top	1.00	0.85	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	11-07-04	Top	362	182			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-03-06	07-11-02	Top	14	7			n/a
3	B8(I1958)	Conc. Pt. (lbs)	L	07-09-06	07-09-06	Top	952	553			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	16243 ft-lbs	35392 ft-lbs	45.9%	1	07-01-04
End Shear	5258 lbs	14464 lbs	36.4%	1	10-05-04
Total Load Deflection	L/521 (0.254")	n/a	48.1%	4	06-01-04
Live Load Deflection	L/808 (0.164")	n/a	44.7%	5	06-01-04
Max Defl.	0.254"	n/a	n/a	4	06-01-04
Span / Depth	11.2				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 8-1/8" x 3-1/2"	5686 lbs	43.1%	21.7%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	5782 lbs	48.8%	24.6%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

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

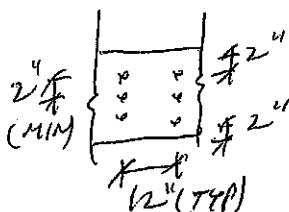
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

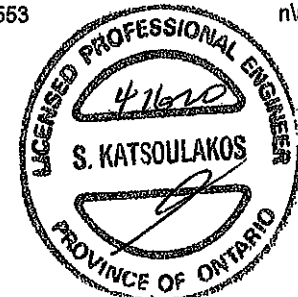
Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012

AMENDED 2020



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



DWG NO. YAM6005-20

STRUCTURAL

COMPONENT ONLY

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA).

Completeness and accuracy of Input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current installation Guide and applicable building codes. To obtain installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

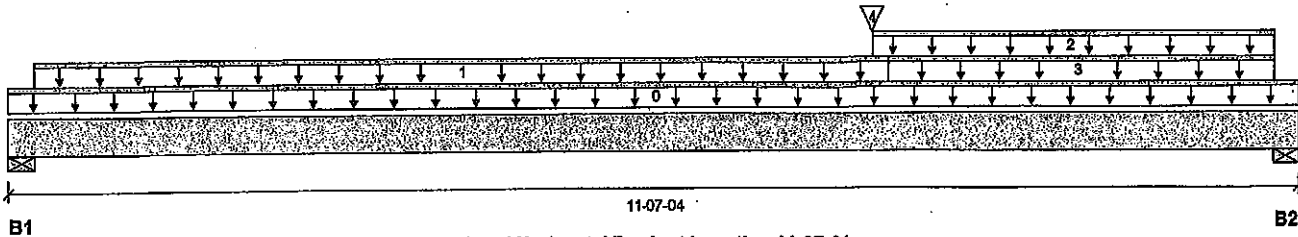
File name: MOUNTAINASH 11 EL 1.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B7(1976)

Specifier:

Designer:

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	634 / 0	414 / 0		
B2, 2-3/4"	1524 / 0	881 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-07-04	Top	12				00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-12	07-10-08	Top	27	14			n/a
2	STAIR	Unf. Lin. (lb/ft)	L	07-08-14	11-04-08	Top	240	120			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	07-10-08	11-04-08	Top	25	12			n/a
4	B8(1958)	Conc. Pt. (lbs)	L	07-08-12	07-08-12	Top	991	572			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	8707 ft-lbs	35392 ft-lbs	24.6%	1	07-08-12
End Shear	2811 lbs	14464 lbs	19.4%	1	10-04-10
Total Load Deflection	L/999 (0.116")	n/a	n/a	4	06-04-04
Live Load Deflection	L/999 (0.072")	n/a	n/a	5	06-04-04
Max Defl.	0.116"	n/a	n/a	4	06-04-04
Span / Depth	11.2				

Bearing Supports	Dlm. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	1469 lbs	12.4%	6.3%	Spruce-Pine-Fir
B2	Wall/Plate 2-3/4" x 3-1/2"	3387 lbs	57.2%	28.8%	Spruce-Pine-Fir

Notes

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

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

Calculations assume member is fully braced.

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

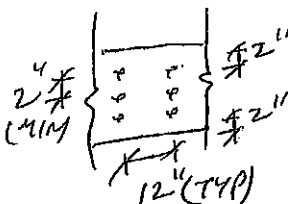
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

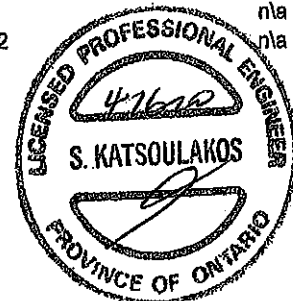
Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

AMENDED 2020



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



SWG NO. TAM 6006-20

STRUCTURAL COMPONENT ONLY Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report

Bulld 7239

Job name:

File name: MOUNTAINASH 11 EL 1.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B8(11958)

City, Province, Postal Code:

Specifier:

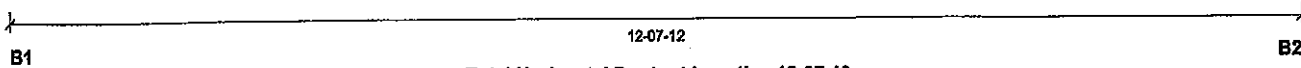
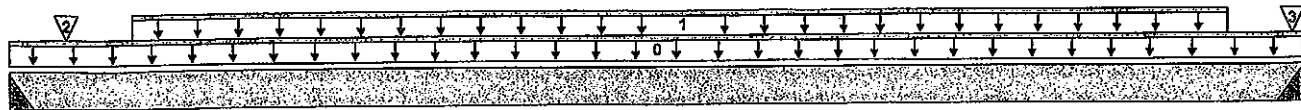
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	954 / 0	554 / 0		
B2, 4"	989 / 0	571 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-07-12	Top		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-02-12	11-10-12	Top	156	78			n/a
2	J5(12091)	Conc. Pt. (lbs)	L	00-06-12	00-06-12	Top	159	80			n/a
3	J5(12201)	Conc. Pt. (lbs)	L	12-06-08	12-06-08	Top	122	61			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	6340 ft-lbs	35392 ft-lbs	17.9%	1	05-10-12
End Shear	1917 lbs	14464 lbs	13.3%	1	11-03-14
Total Load Deflection	L/999 (0.121")	n/a	n/a	4	06-04-12
Live Load Deflection	L/999 (0.077")	n/a	n/a	5	06-04-12
Max Defl.	0.121"	n/a	n/a	4	06-04-12
Span / Depth	12.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 4" x 3-1/2"	2123 lbs	n/a	12.4%	HGUS410
B2	Hanger 4" x 3-1/2"	2197 lbs	n/a	12.9%	HGUS410

Cautions

Header for the hanger HGUS410 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Header for the hanger HGUS410 at B2 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF.

Notes

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

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

Calculations assume member is fully braced.

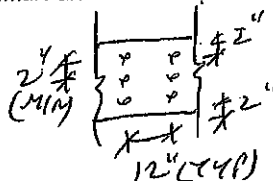
Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86. **AMENDED 2020**

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



**ONE NO. 1AM 6007-20
STRUCTURAL
COMPONENT ONLY**

Disclosure

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BC CALC®, BC FRAMER®, AJSTM, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

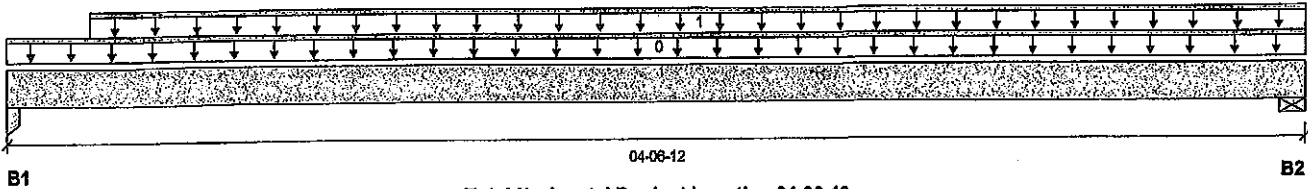
CONFORMS TO OBC 2012

BC CALC® Member Report
 Build 7239
 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports: CCMC 12472-R

Dry | 1 span | No cant.

February 11, 2020 08:38:28

File name: MOUNTAINASH 11 EL 1.mmdl
 Description: 1ST FLR FRAMING\Dropped Beams\B4L(I547)
 Specifier:
 Designer:
 Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	458 / 0	242 / 0		
B2, 5-1/2"	567 / 0	298 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-06-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-03-08	04-06-12	Top	240	120			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1002 ft-lbs	12053 ft-lbs	8.3%	1	02-02-06
End Shear	474 lbs	7232 lbs	6.6%	1	01-03-06
Total Load Deflection	L/999 (0.004")	n/a	n/a	4	02-02-06
Live Load Deflection	L/999 (0.003")	n/a	n/a	5	02-02-06
Max Defl.	0.004"	n/a	n/a	4	02-02-06
Span / Depth	4.0				

			Demand/ Resistance Support	Demand/ Resistance Member	Material	
Bearing Supports	Dim. (LxW)	Demand				
B1	Column	3-1/2" x 1-3/4"	989 lbs	19.9%	13.2%	Unspecified
B2	Wall/Plate	5-1/2" x 1-3/4"	1223 lbs	20.7%	10.4%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 04-01-04, Bottom: 04-01-04.
 Resistance Factor phi has been applied to all presented results per CSA O86. **AMENDED 2020**
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012



UWS NO. TAM 6008-20

STRUCTURAL COMPONENT ONLY
Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

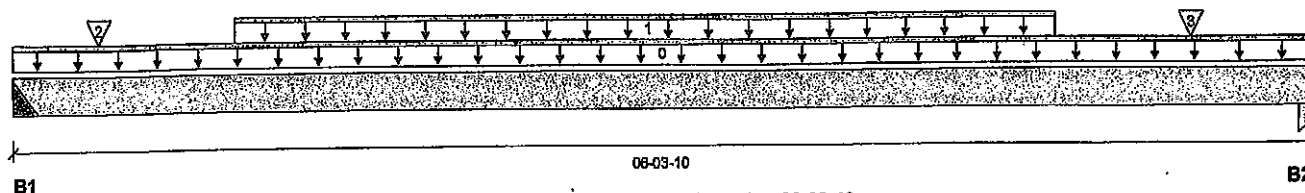
File name: MOUNTAINASH 11 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B2(11956)

Specifier:

Designer:

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	468 / 0	272 / 0		
B2, 1-3/4"	417 / 0	244 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-03-10	Top		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-01-00	05-01-00	Top	148	73			n/a
2	J5(12162)	Conc. Pt. (lbs)	L	00-05-00	00-05-00	Top	145	72			n/a
3	J5(11968)	Conc. Pt. (lbs)	L	05-09-00	05-09-00	Top	149	74			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1438 ft-lbs	35392 ft-lbs	4.1%	1	03-01-00
End Shear	727 lbs	14464 lbs	5.0%	1	05-02-00
Total Load Deflection	L/999 (0.006")	n/a	n/a	4	03-03-00
Live Load Deflection	L/999 (0.004")	n/a	n/a	5	03-03-00
Max Defl.	0.006"	n/a	n/a	4	03-03-00
Span / Depth	6.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 4" x 3-1/2"	1042 lbs	n/a	6.1%	HGUS410
B2	Column 1-3/4" x 3-1/2"	930 lbs	18.7%	12.4%	Unspecified

Cautions

Header for the hanger HGUS410 at B1 is a Triple 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF. Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

Notes

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

Hanger Manufacturer: Unassigned

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

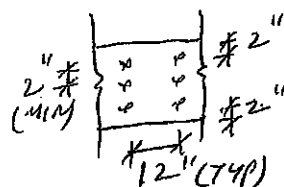
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

AMENDED 2020

PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



DWG NO. YAM 6009-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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BC CALC®, BC FRAMER®, AJSTM, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



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

1ST FLR FRAMING\Flush Beams\B3(I2204) (Flush Beam)

Dry | 1 span | No cant.

PASSED

February 11, 2020 08:38:28

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

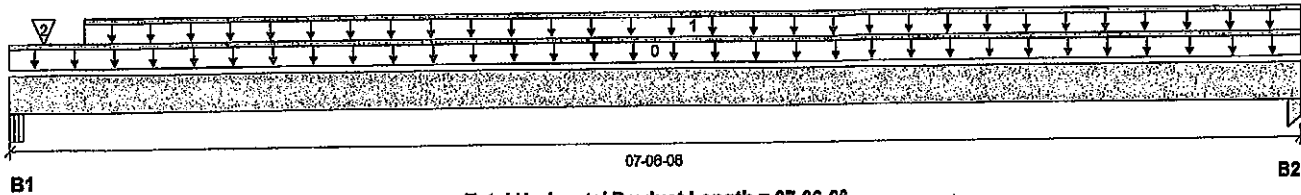
File name: MOUNTAINASH 11 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B3(I2204)

Specifier:

Designer:

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/4"	114 / 0	92 / 0		
B2, 3-1/2"	52 / 0	48 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-06-06	Top	6				00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-05-04	07-06-06	Top	14	7			n/a
2	3(I563)	Conc. Pt. (lbs)	L	00-02-06	00-02-06	Top	66	45			n/a

Controls Summary

Pos. Moment	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
End Shear	90 lbs	7232 lbs	1.2%	1	01-05-02
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	03-10-01
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	03-10-01
Max Defl.	0.003"	n/a	n/a	4	03-10-01
Span / Depth	7.0				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 5-1/4" x 1-3/4"	286 lbs	5.8%	2.6%	Unspecified
B2	Column 3-1/2" x 1-3/4"	137 lbs	2.8%	1.8%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012

AMENDED 2020



DWG NO. TAM6010-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report
Build 7239

Job name:

File name: MOUNTAINASH 11 EL 1.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B5(i2252)

City, Province, Postal Code:

Specifier:

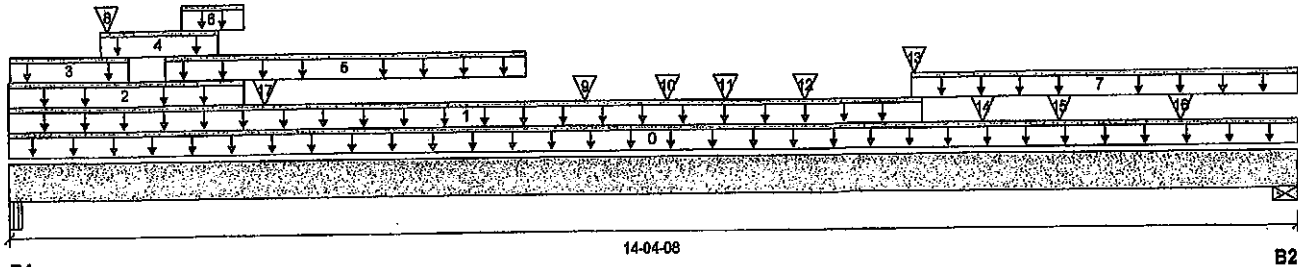
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 14-04-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/4"	5573 / 0	3199 / 0		
B2, 4-3/8"	4175 / 0	2279 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-04-08	Top		18			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	10-02-08	Top	13	6			n/a
2	4(i564)	Unf. Lin. (lb/ft)	L	00-00-00	02-07-10	Top		65			n/a
3	4(i564)	Unf. Lin. (lb/ft)	L	00-00-04	01-04-04	Top	190	94			n/a
4	4(i564)	Unf. Lin. (lb/ft)	L	01-00-04	02-04-04	Top	260	130			n/a
5	Smoothed Load	Unf. Lin. (lb/ft)	L	01-09-02	05-09-02	Top	357	178			n/a
6	4(i564)	Unf. Lin. (lb/ft)	L	01-11-05	02-07-10	Top	387	209			n/a
7	STAIR	Unf. Lin. (lb/ft)	L	10-00-13	14-04-08	Top	240	120			n/a
8	J1(i2242)	Conc. Pt. (lbs)	L	01-01-02	01-01-02	Top	384	192			n/a
9	J1(i2253)	Conc. Pt. (lbs)	L	06-05-02	06-05-02	Top	401	201			n/a
10	J1(i2251)	Conc. Pt. (lbs)	L	07-04-02	07-04-02	Top	275	137			n/a
11	J1DJ(i2259)	Conc. Pt. (lbs)	L	07-11-10	07-11-10	Top	296	148			n/a
12	J1(i1921)	Conc. Pt. (lbs)	L	08-10-02	08-10-02	Top	363	182			n/a
13	-	Conc. Pt. (lbs)	L	10-01-04	10-01-04	Top	779	426			n/a
14	J1DJ(i2254)	Conc. Pt. (lbs)	L	10-10-10	10-10-10	Top	314	157			n/a
15	J1(i2260)	Conc. Pt. (lbs)	L	11-09-02	11-09-02	Top	394	197			n/a
16	J1(i2245)	Conc. Pt. (lbs)	L	13-01-02	13-01-02	Top	453	226			n/a
17	3(i563)	Conc. Pt. (lbs)	L	02-10-06	02-10-06	Top	2549	1401			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	31424 ft-lbs	55212 ft-lbs	56.9%	1	06-05-02
End Shear	11729 lbs	21696 lbs	54.1%	1	01-05-02
Total Load Deflection	L/308 (0.535")	n/a	78.0%	4	06-10-10
Live Load Deflection	L/478 (0.344")	n/a	75.4%	5	06-10-10
Max Defl.	0.535"	n/a	n/a	4	06-10-10
Span / Depth	13.8				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 5-1/4" x 5-1/4"	12358 lbs	84.0%	36.8%	Unspecified
B2	Wall/Plate 4-3/8" x 5-1/4"	9111 lbs	64.5%	32.5%	Spruce-Pine-Fir



NO. YAM 6011-20
STRUCTURAL
COMPONENT ONLY



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

PASSED

1ST FLR FRAMING\Flush Beams\B5\12252) (Flush Beam)

Dry | 1 span | No cant.

February 11, 2020 08:38:28

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 11 EL 1.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B5\12252)

Specifier:

Designer:

Company:

Notes

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

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

Calculations assume member is fully braced.

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

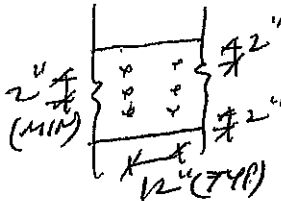
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO UBC 2012

AMENDED 2020



PROVIDE 3 ROWS OF 3/8" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS. STAGGER NAILS 6" BETWEEN PILES.



DWG NO. YAM 6011-20
STRUCTURAL
COMPONENT ONLY

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

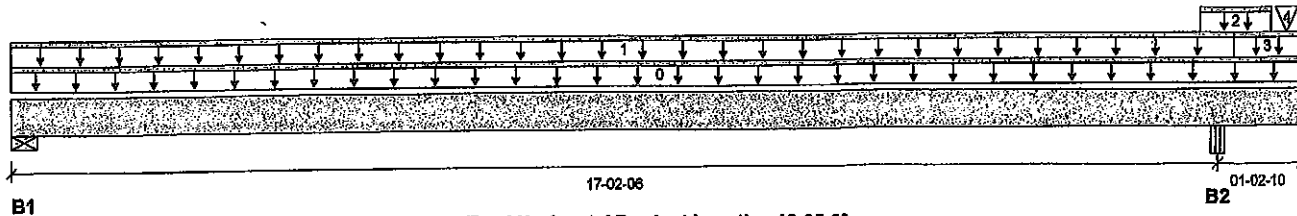
File name: MOUNTAINASH 11 EL 2.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B12B(i2777)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 18-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	235 / 1	218 / 0	0 / 1	
B2, 5-1/4"	257 / 0	366 / 0	25 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-05-00	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	17-05-00	Top	27	13			n/a
2	E27(i2584)	Unf. Lin. (lb/ft)	L	16-11-08	17-11-08	Top		81			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	17-05-00	18-05-00	Top	11	6			n/a
4	E31(i2587)	Conc. Pt. (lbs)	L	18-02-04	18-02-04	Top	12	42			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2527 ft-lbs	35392 ft-lbs	7.1%	32	08-08-01
Neg. Moment	-110 ft-lbs	-23005 ft-lbs	0.5%	0	17-02-06
End Shear	527 lbs	14464 lbs	3.6%	2	01-04-04
Cont. Shear	533 lbs	14464 lbs	3.7%	1	15-11-14
Total Load Deflection	L/999 (0.096")	n/a	n/a	79	08-08-01
Live Load Deflection	L/999 (0.05")	n/a	n/a	117	08-08-01
Total Neg. Defl.	2xL/1998 (-0.022")	n/a	n/a	79	18-05-00
Max Defl.	0.096"	n/a	n/a	79	08-08-01
Span / Depth	17.1				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-3/8" x 3-1/2"	626 lbs	6.6%	3.3%	Spruce-Pine-Fir
B2	Beam 5-1/4" x 3-1/2"	869 lbs	8.9%	3.9%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86. AMENDED 2020

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

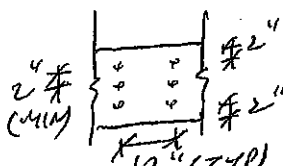
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

CONFORMS TO OBC 2012



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE DO NOT USE AIR NAILS



DWG NO. TAM 6012-20
STRUCTURAL
COMPONENT ONLY

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

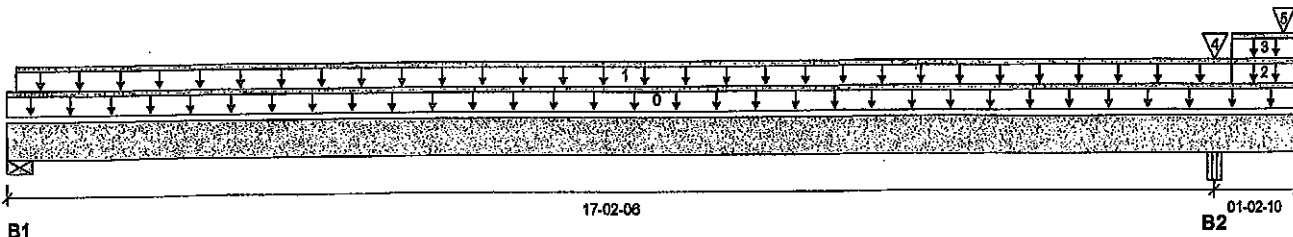
File name: MOUNTAINASH 11 EL 2.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B13B(12870)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 18-05-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	172 / 2	186 / 0	0 / 2	
B2, 5-1/4"	206 / 0	348 / 0	31 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-05-00	Top		12			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-01-10	17-05-00	Top	20	10			n/a
2	E25(i2585)	Unf. Lin. (lb/ft)	L	17-05-00	18-05-00	Top		81			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	17-05-00	18-05-00	Top	16	8			n/a
4	E24(i2582)	Conc. Pt. (lbs)	L	17-02-04	17-02-04	Top		37			n/a
5	E25(i2585)	Conc. Pt. (lbs)	L	18-02-04	18-02-04	Top	15	14			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1999 ft-lbs	35392 ft-lbs	5.6%	32	08-08-01
Neg. Moment	-122 ft-lbs	-23005 ft-lbs	0.5%	0	17-02-08
End Shear	419 lbs	14464 lbs	2.9%	32	01-04-04
Cont. Shear	427 lbs	14464 lbs	3.0%	1	15-11-14
Total Load Deflection	L/999 (0.076")	n/a	n/a	79	08-08-01
Live Load Deflection	L/999 (0.038")	n/a	n/a	117	08-08-01
Total Neg. Defl.	2xL/1998 (-0.017")	n/a	n/a	79	18-05-00
Max Defl.	0.076"	n/a	n/a	79	08-08-01
Span / Depth	17.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-3/8" x 3-1/2"	491 lbs	5.2%	2.6%	Spruce-Pine-Fir
B2	Beam 5-1/4" x 3-1/2"	774 lbs	7.9%	3.5%	Unspecified

Notes

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

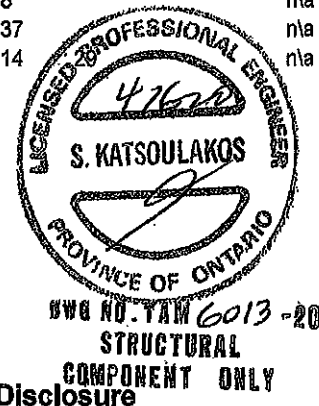
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.



PROVIDE 3 ROWS OF 3/2" AND 0X SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 2" LUMBER EDGE/END



Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCIM®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B14B(i2891) (Flush Beam)

PASSED

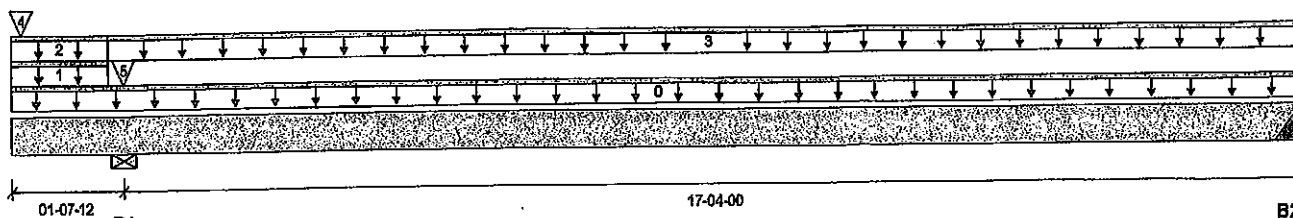
BC CALC® Member Report
Build 7239

Dry | 2 spans | L cant.

March 3, 2020 17:35:50

Job name:
Address:
City, Province, Postal Code: WATERDOWN
Customer:
Code reports: CCMC 12472-R

File name: MOUNTAINASH 11 EL.2.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B14B(i2891)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 18-11-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	624 / 0	1130 / 0	451 / 0	
B2, 2"	349 / 18	221 / 0	0 / 31	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	18-11-12	Top		12			00-00-00
1	E35(i2912)	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top	33	111	63		n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-05-00	Top	23	12			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-05-00	18-11-12	Top	40	20			n/a
4	-	Conc. Pt. (lbs)	L	00-01-13	00-01-13	Top	158	547	302		n/a
5	E36(i2915)	Conc. Pt. (lbs)	L	01-07-12	01-07-12	Top	15	51	29		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	3114 ft-lbs	35392 ft-lbs	8.8%	33	11-00-09
Neg. Moment	-2363 ft-lbs	-35392 ft-lbs	6.7%	37	01-07-12
End Shear	684 lbs	14464 lbs	4.7%	33	17-09-14
Cont. Shear	1431 lbs	14464 lbs	9.9%	37	00-05-02
Total Load Deflection	L/999 (0.114")	n/a	n/a	80	10-06-15
Live Load Deflection	L/999 (0.081")	n/a	n/a	118	10-02-12
Total Neg. Defl.	2xL/1998 (-0.027")	n/a	n/a	80	00-00-00
Max Defl.	0.114"	n/a	n/a	80	10-06-15
Span / Depth	17.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	2800 lbs	23.6%	11.9%	Spruce-Pine-Fir
B2	Hanger 2" x 3-1/2"	800 lbs	n/a	9.4%	Hanger

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.



OWN NO. YAN 6014-20
STRUCTURAL
COMPONENT ONLY



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B14B(i2891) (Flush Beam)

PASSED

BC CALC® Member Report
Build 7239

Dry | 2 spans | L cant.

March 3, 2020 17:35:50

Job name:
Address:
City, Province, Postal Code: WATERDOWN
Customer:
Code reports: CCMC 12472-R

File name: MOUNTAINASH 11' EL 2.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B14B(i2891)
Specifier:
Designer: AJ
Company:

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

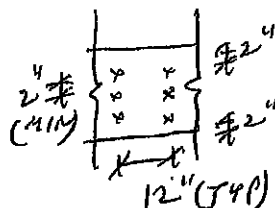
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

CONFORMS TO OBC 2012

AMENDED 2020



**PROVIDE 3 ROWS OF 3/4" ARDOX
SPIRAL NAILS @ 12" O/C FOR
MULTI-PLY NAILING, MAINTAIN
A MIN. 2" LUMBER EDGE/END
DISTANCE. DO NOT USE AIR NAILS**



DWG NO. TAM 6014 -20
STRUCTURAL
COMPONENT ONLY

Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report

Build 7239

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | L cant.

March 3, 2020 17:35:50

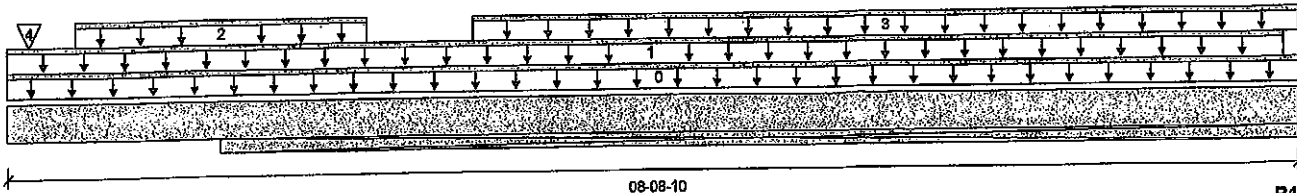
File name: MOUNTAINASH 11 EL 2.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B15B(I2901)

Specifier:

Designer: AJ

Company:



Total Horizontal Product Length = 08-08-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 87-5/8"	1792 / 0	1702 / 0	472 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-08-10	Top	1.00	0.85	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-07-06	Top	4	2			n/a
2	E33(I2914)	Unf. Lin. (lb/ft)	L	00-05-08	02-05-00	Top	33	111	63		n/a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	03-01-06	08-08-10	Top	267	133			n/a
4	-	Conc. Pt. (lbs)	L	00-01-14	00-01-14	Top	183	611	349		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Neg. Moment	-2013 ft-lbs	-35392 ft-lbs	5.7%	13	01-05-00
End Shear	1745 lbs	14464 lbs	12.1%	13	00-05-02
Total Load Deflection	2xL/1998 (0.002")	n/a	n/a	35	00-00-00
Live Load Deflection	2xL/1998 (0.001")	n/a	n/a	51	00-00-00
Span / Depth	1.4				
Dist. Load (B1)	284.36 lb/ft	57645.00 lb/ft	0.5%		

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 87-5/8" x 3-1/2"	5288 lbs	2.8%	1.4%	Spruce-Pine-Fir

Notes

Design meets User specified (2xL/240) Total load deflection criteria.

Design meets User specified (2xL/360) Live load deflection criteria.

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

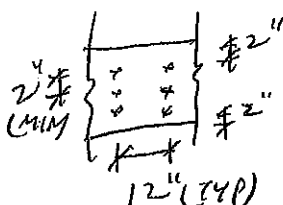
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

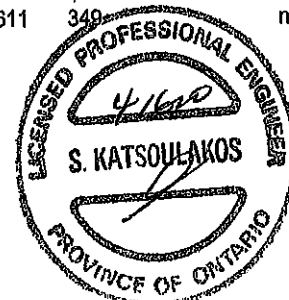
Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

CONFORMS TO OBC 2012

AMENDED 2020



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 12" O/C FOR MULTI-PLY NAILING, MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



DWG NO. YAM 6015-20
STRUCTURAL
COMPONENT ONLY

Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®.

BC CALC® Member Report

Dry | 1 span | No cant.

March 3, 2020 17:35:50

Build 7239

Job name:

File name: MOUNTAINASH 11 EL 2.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B16B(i2911)

City, Province, Postal Code: WATERDOWN

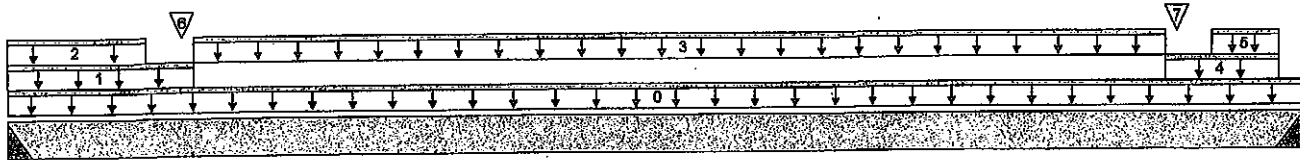
Specifier:

Customer:

Designer: AJ

Code reports: CCMC 12472-R

Company:



B1 09-03-08 B2

Total Horizontal Product Length = 09-03-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	154 / 0	560 / 0	293 / 0	
B2, 2"	147 / 0	539 / 0	282 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-03-08	Top		12			00-00-00
1	E34(i2913)	Unf. Lin. (lb/ft)	L	00-00-00	01-04-00	Top		81			n/a
2	E34(i2913)	Unf. Lin. (lb/ft)	L	00-00-00	01-04-00	Top	33	30	63		n/a
3	E37(i2916)	Unf. Lin. (lb/ft)	L	01-04-00	08-04-00	Top		61			n/a
4	E38(i2917)	Unf. Lin. (lb/ft)	L	08-04-00	09-01-08	Top		81			n/a
5	E38(i2917)	Unf. Lin. (lb/ft)	L	08-08-00	09-01-08	Top	33	30	63		n/a
6	E34(i2913)	Conc. Pt. (lbs)	L	01-03-00	01-03-00	Top	127	173	242		n/a
7	E38(i2917)	Conc. Pt. (lbs)	L	08-05-00	08-05-00	Top	126	172	241		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1312 ft-lbs	23005 ft-lbs	5.7%	0	04-06-04
End Shear	1131 lbs	14464 lbs	7.8%	13	01-01-14
Total Load Deflection	L/999 (0.022")	n/a	n/a	35	04-07-09
Live Load Deflection	L/999 (0.007")	n/a	n/a	51	04-06-04
Max Defl.	0.022"	n/a	n/a	35	04-07-09
Span / Depth	9.2				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 3-1/2"	1293 lbs	n/a	15.1%	HUC412
B2 Hanger	2" x 3-1/2"	1245 lbs	n/a	14.6%	HUC412

Cautions

Header for the hanger HUC412 at B1 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF.
Hanger model HUC412 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.
Header for the hanger HUC412 at B2 is a Double 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF.



OWG NO. YAM6016-20
STRUCTURAL
COMPONENT ONLY



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B16B(i2911) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

March 3, 2020 17:35:50

Build 7239

Job name:

Address:

City, Province, Postal Code: WATERDOWN

Customer:

Code reports: CCMC 12472-R

File name: MOUNTAINASH 11 EL 2.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B16B(i2911)

Specifier:

Designer: AJ

Company:

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

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

AMENDED 2020

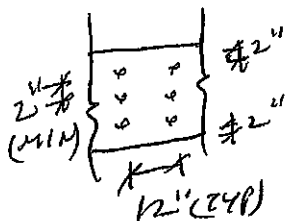
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012



**PROVIDE 3 ROWS OF 3/4" ARDXX
SPIRAL NAILS @ 12" O/C FOR
MULTI-PLY NAILING. MAINTAIN
A MIN. 2" LUMBER EDGE/END
DISTANCE. DO NOT USE AIR NAILS**



**DWG NO. TAM 601620
STRUCTURAL
COMPONENT ONLY**

Disclosure

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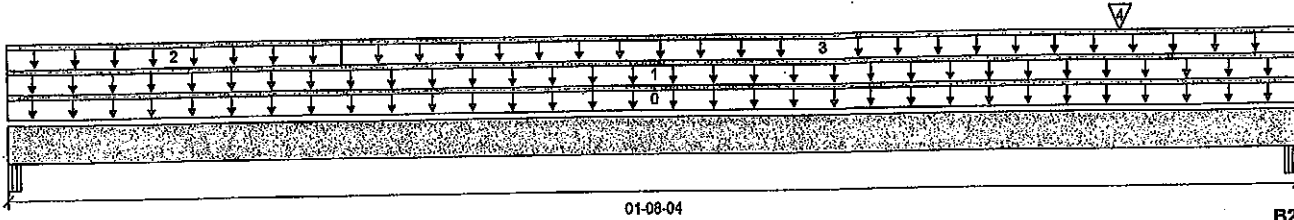
BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report
Build 7239
Job name:
Address:
City, Province, Postal Code: WATERDOWN
Customer:
Code reports: CCMC 12472-R

Dry | 1 span | No cant.

February 11, 2020 09:31:08

File name: MOUNTAINASH 11 EL 3.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B12C(I2905)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 01-08-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/4"	33 / 0	108 / 0	53 / 0	
B2, 5-1/4"	48 / 0	142 / 0	76 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-08-04	Top	12				00-00-00
1	E27(I2584)	Unf. Lin. (lb/ft)	L	00-00-00	01-08-04	Top	33	111	63		n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	00-05-04	Top	5				n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-05-04	01-08-04	Top	8	4			n/a
4	-	Conc. Pt. (lbs)	L	01-05-08	01-05-08	Top	13	35			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	32 ft-lbs	35392 ft-lbs	n/a	13	00-10-02
End Shear	119 lbs	14464 lbs	0.8%	13	00-05-04
Span / Depth	0.9				

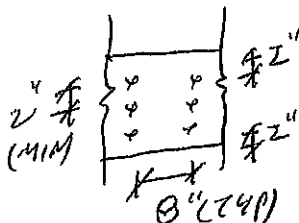
Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5-1/4" x 3-1/2"	248 lbs	2.5%	1.1%	Unspecified
B2 Beam	5-1/4" x 3-1/2"	339 lbs	3.5%	1.5%	Unspecified

Notes

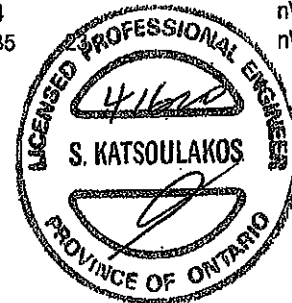
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
Unbalanced snow loads determined from building geometry were used in selected product's verification.
Design based on Dry Service Condition.
Importance Factor: Normal Part code: Part 9

CONFORMS TO CBC 2012

AMENDED 2020



PROVIDE 3 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 8" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



ENG NO. TAM 6017-20

STRUCTURAL
COMPONENT ONLY
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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®.



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

2ND FLR FRAMING\Flush Beams\B13C(i2906) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

February 11, 2020 09:31:08

Build 7239

Job name:

File name: MOUNTAINASH 11 EL 3.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B13C(i2906)

City, Province, Postal Code: WATERDOWN

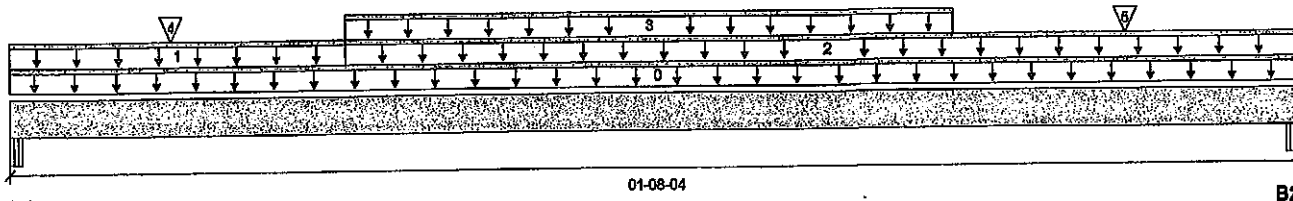
Specifier:

Customer:

Designer: AJ

Code reports: CCMC 12472-R

Company:



Total Horizontal Product Length = 01-08-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/4"	43 / 0	113 / 0	53 / 0	
B2, 5-1/4"	61 / 0	135 / 0	87 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-08-04	Top	1.00	0.66	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	00-05-04	Top	20	10			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-05-04	01-08-04	Top	18	9			n/a
3	E25(i2585)	Unf. Lin. (lb/ft)	L	00-05-04	01-02-12	Top	33	111	63		n/a
4	E24(i2582)	Conc. Pt. (lbs)	L	00-02-08	00-02-08	Top	14	50			n/a
5	E26(i2583)	Conc. Pt. (lbs)	L	01-05-08	01-05-08	Top	33	74			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	33 ft-lbs	35392 ft-lbs	n/a	13	00-10-01
End Shear	126 lbs	14464 lbs	0.9%	13	00-05-04
Span / Depth	0.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5-1/4" x 3-1/2"	265 lbs	2.7%	1.2%	Unspecified
B2 Beam	5-1/4" x 3-1/2"	360 lbs	3.7%	1.6%	Unspecified

Notes

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

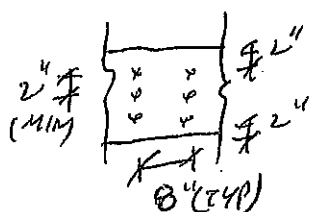
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

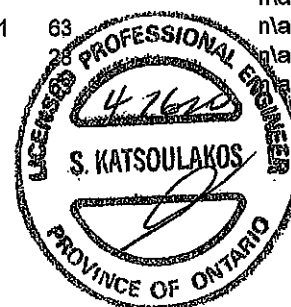
Importance Factor: Normal Part code: Part 9

CONFORMS TO CBC 2012

AMENDED 2020



PROVIDE 2 ROWS OF 3/4" ARDOX SPIRAL NAILS @ 8" O/C FOR MULTI-PLY NAILING. MAINTAIN A MIN. 2" LUMBER EDGE/END DISTANCE. DO NOT USE AIR NAILS



BSW NO. YAM 6018-20

STRUCTURAL

COMPONENT ONLY

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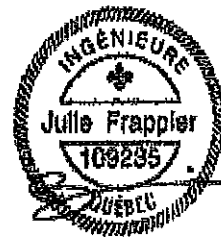
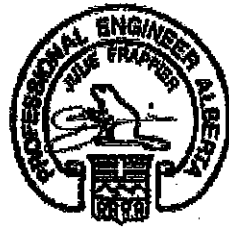
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 30 psf
Simple Spans, L/480 Deflection Limit
3/4" OSB G&N Sheathing

Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"
	NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"	16'-5"	15'-5"	14'-3"
	NI-70	18'-0"	16'-11"	16'-3"	15'-6"	18'-5"	17'-3"	16'-7"	15'-6"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	15'-10"
11-7/8"	NI-20	17'-10"	16'-10"	16'-0"	14'-10"	18'-6"	17'-1"	16'-0"	14'-10"
	NI-40x	19'-4"	17'-11"	17'-3"	15'-10"	19'-11"	18'-6"	17'-9"	15'-10"
	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-1"
	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
14"	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	17'-5"	22'-1"	20'-6"	19'-6"	17'-5"
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"
	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
16"	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21'-9"	20'-7"
	NI-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21'-8"	20'-6"
	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

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	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"
	NI-40x	17'-9"	16'-1"	15'-1"	13'-11"	17'-9"	16'-1"	15'-1"	13'-11"
	NI-60	18'-1"	16'-5"	15'-5"	14'-3"	18'-1"	16'-5"	15'-5"	14'-3"
	NI-70	19'-10"	17'-11"	16'-9"	15'-6"	19'-10"	17'-11"	16'-9"	15'-6"
	NI-80	20'-2"	18'-3"	17'-1"	15'-10"	20'-2"	18'-3"	17'-1"	15'-10"
11-7/8"	NI-20	18'-10"	17'-1"	16'-0"	14'-10"	18'-10"	17'-1"	16'-0"	14'-10"
	NI-40x	21'-3"	19'-3"	17'-9"	15'-10"	21'-3"	19'-3"	17'-9"	15'-10"
	NI-60	21'-9"	19'-8"	18'-5"	17'-1"	21'-9"	19'-8"	18'-5"	17'-1"
	NI-70	23'-4"	21'-5"	20'-1"	18'-6"	23'-8"	21'-5"	20'-1"	18'-6"
	NI-80	23'-7"	21'-10"	20'-5"	18'-11"	24'-1"	21'-10"	20'-5"	18'-11"
14"	NI-90x	24'-3"	22'-6"	21'-3"	19'-7"	24'-8"	22'-7"	21'-3"	19'-7"
	NI-40x	24'-2"	21'-5"	19'-6"	17'-5"	24'-2"	21'-5"	19'-6"	17'-5"
	NI-60	24'-9"	22'-5"	21'-0"	19'-6"	24'-9"	22'-5"	21'-0"	19'-6"
	NI-70	26'-1"	24'-3"	22'-9"	21'-0"	26'-8"	24'-3"	22'-9"	21'-0"
	NI-80	26'-6"	24'-7"	23'-3"	21'-6"	27'-1"	24'-10"	23'-3"	21'-6"
16"	NI-90x	27'-3"	25'-4"	24'-1"	22'-4"	27'-9"	25'-10"	24'-3"	22'-4"
	NI-60	27'-3"	24'-11"	23'-5"	21'-7"	27'-6"	24'-11"	23'-5"	21'-7"
	NI-70	28'-8"	26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"
	NI-80	29'-1"	27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	25'-10"	23'-10"
	NI-90x	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"	26'-11"	24'-10"

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 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 $L/480$ and a total load deflection limit of $L/240$.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-1274C.



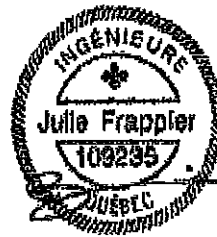
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/480 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'-9"	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'-8"	15'-3"	14'-5"	N/A	16'-8"	15'-3"	14'-5"	N/A
	NI-40x	17'-11"	16'-11"	16'-1"	N/A	18'-5"	17'-1"	16'-1"	N/A
	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	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'-3"	N/A	19'-11"	18'-3"	17'-3"	N/A
	NI-40x	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	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/480 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, N8C 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.



Maximum Floor Spans

Live Load = 40 psf; Dead Load = 15 psf
Simple Spans, L/480 Deflection Limit
3/4" OSB G&N Sheathing

Depth	Series	Bare				1/2" Gypsum Ceiling			
		On Centre Spacing				On Centre Spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"
	NI-70	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
11-7/8"	NI-20	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-60	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-70	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19'-9"	18'-10"	17'-10"
	NI-80	21'-1"	19'-5"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
14"	NI-90x	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"	19'-6"	18'-6"
	NI-40x	21'-5"	19'-10"	18'-11"	17'-11"	22'-1"	20'-6"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20'-10"	19'-11"	18'-10"
	NI-70	23'-0"	21'-3"	20'-3"	19'-2"	23'-8"	21'-11"	20'-10"	19'-9"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
16"	NI-90x	24'-1"	22'-3"	21'-2"	20'-0"	24'-8"	22'-10"	21'-9"	20'-7"
	NI-60	23'-9"	22'-0"	20'-11"	19'-10"	24'-6"	22'-9"	21'-8"	20'-6"
	NI-70	25'-1"	23'-2"	22'-0"	20'-10"	25'-9"	23'-10"	22'-9"	21'-6"
	NI-80	25'-6"	23'-6"	22'-4"	21'-2"	26'-1"	24'-2"	23'-1"	21'-10"
	NI-90x	26'-4"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"	23'-8"	22'-5"

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"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	NI-70	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18'-11"	17'-10"	16'-7"
	NI-80	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"
11-7/8"	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-10"	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"
	NI-60	22'-1"	20'-7"	19'-7"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
	NI-70	23'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"	21'-2"	19'-9"
	NI-80	23'-7"	21'-11"	20'-11"	19'-9"	24'-1"	22'-6"	21'-5"	20'-0"
14"	NI-90x	24'-3"	22'-6"	21'-6"	20'-4"	24'-8"	23'-0"	22'-0"	20'-9"
	NI-40x	24'-5"	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-60	24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
	NI-70	26'-1"	24'-3"	23'-2"	21'-10"	26'-8"	24'-11"	23'-9"	22'-4"
	NI-80	26'-6"	24'-7"	23'-5"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
16"	NI-90x	27'-3"	25'-4"	24'-1"	22'-9"	27'-9"	25'-11"	24'-8"	23'-4"
	NI-60	27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"	24'-9"	23'-1"
	NI-70	28'-8"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"	26'-1"	24'-8"
	NI-80	29'-1"	27'-0"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90x	29'-11"	27'-10"	26'-6"	25'-0"	30'-6"	28'-5"	27'-2"	25'-8"

- 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 $L/480$ and a total load deflection limit of $L/240$.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans

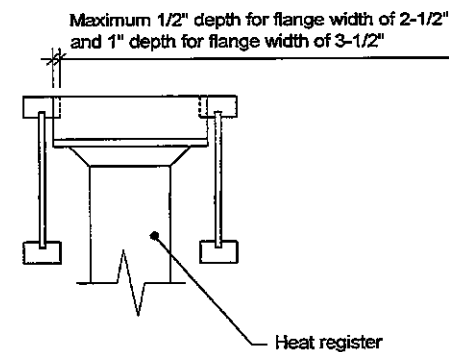
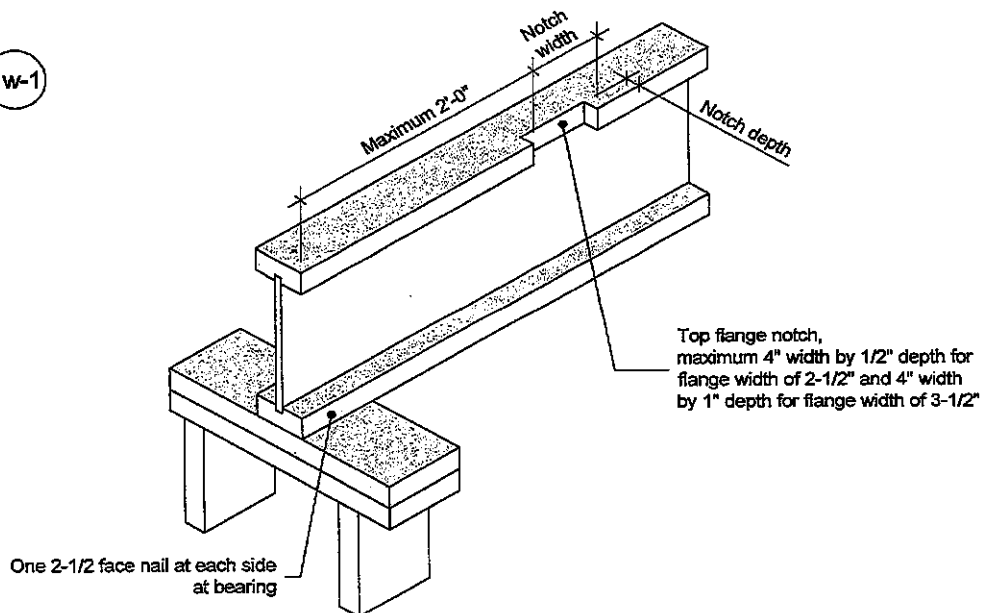
Live Load = 40 psf, Dead Load = 30 psf
Simple Spans, L/480 Deflection Limit
5/8" OSB G&N Sheathing

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'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	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'-9"	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	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
	NI-40x	17'-9"	16'-1"	15'-1"	N/A	17'-9"	16'-1"	15'-1"	N/A
	NI-60	18'-1"	16'-4"	15'-4"	N/A	18'-1"	16'-4"	15'-4"	N/A
	NI-70	19'-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"	16'-9"	N/A
	NI-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"	17'-1"	N/A
11-7/8"	NI-20	18'-9"	17'-0"	16'-0"	N/A	18'-9"	17'-0"	16'-0"	N/A
	NI-40x	21'-0"	19'-3"	17'-9"	N/A	21'-3"	19'-3"	17'-9"	N/A
	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"	18'-5"	N/A
	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-4"	20'-0"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-5"	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'-5"	19'-6"	N/A	24'-1"	21'-5"	19'-6"	N/A
	NI-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"	21'-0"	N/A
	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-9"	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"	24'-10"	23'-4"	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 30 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 $L/480$ 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.

1W-1



Notes:

1. Blocking required at bearing for lateral support, not shown for clarity.
2. The maximum dimensions for a notch on the side of the top flange are 4-inch width by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch width by 1-inch depth for flange width of 3-1/2 inches.
3. This detail applies to simple-span joists and multiple-span joists where the notch is located at the end half-span.
4. For other applications, contact Nordic Structures.

This document supersedes all previous versions. If the document has been in effect for more than one year, consult nordic.ca or contact Nordic Structures.
All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity.

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TITLE

Notch in I-joist for Heat Register

CATEGORY

I-joist - Typical Floor Framing and Construction Details

DOCUMENT

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DATE

2018-04-10

NUMBER

1W-1



Construction Detail

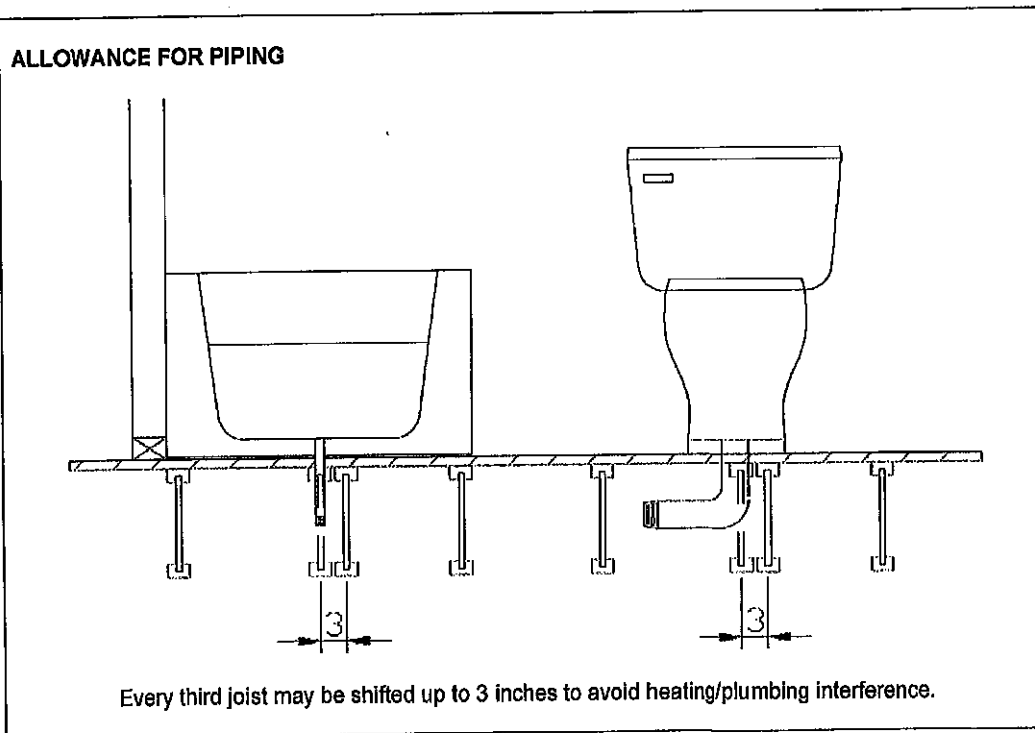
Limit States Design

Allowance for Piping (Installation Notes)

The floor layouts have usually not been checked for heating and/or plumbing interference. On-site adjustment of joists of up to 3 inches is permitted to avoid interferences. When moving a joist, the subfloor thickness shall be checked with code requirements when the joist spacing exceeds 19.2 inches. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.

Installation of Nordic I-joists shall be as per *Nordic Joist Installation Guide for Residential Floors*. Refer to Tables 1 and 2 for maximum web hole and duct chase openings, respectively. These tables are based on the I-joists being used at their maximum spans. The minimum distance given may be reduced for shorter spans; contact your distributor for additional information.

The detail below shows the 3-inch allowance for piping. Every third joist may be shifted up to 3 inches to avoid heating/plumbing interference. For other applications, please contact your distributor.



Revised April 12, 2012