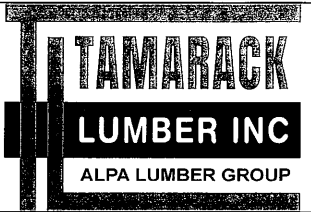


Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	28
J1DJ	16-00-00	9 1/2" NI-40x	2	12
J2	14-00-00	9 1/2" NI-40x	1	6
J3	12-00-00	9 1/2" NI-40x	1	11
J4	8-00-00	9 1/2" NI-40x	1	5
J5	6-00-00	9 1/2" NI-40x	1	5
J6	4-00-00	9 1/2" NI-40x	1	3
J7	2-00-00	9 1/2" NI-40x	1	2
B2	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B8	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B3	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
4	H3	HUS1.81/10



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14 COVENTRY

ELEVATION: A, B, C

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

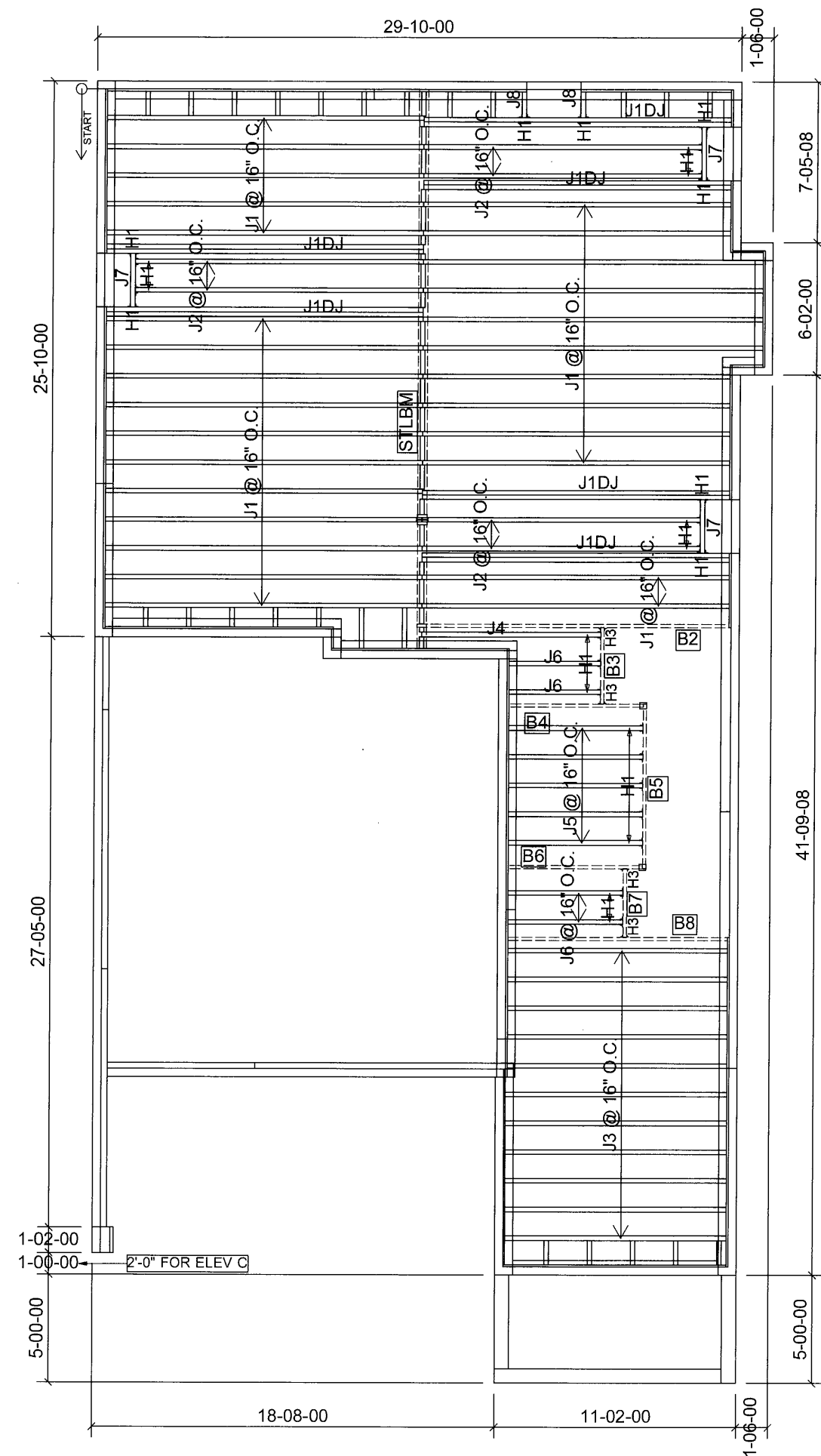
DESIGNER: EEO

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/ft^2
DEAD LOAD: 15.0 lb/ft^2
TILE LOAD: 20.0 lb/ft^2

SUBFLOOR: 3/4" GLUED AND NAILED



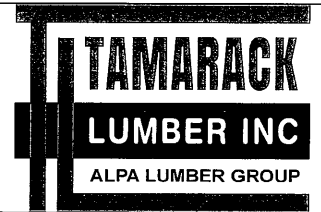
Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	28
J1DJ	16-00-00	9 1/2" NI-40x	2	12
J2	14-00-00	9 1/2" NI-40x	1	6
J3	12-00-00	9 1/2" NI-40x	1	11
J4	10-00-00	9 1/2" NI-40x	1	1
J5	8-00-00	9 1/2" NI-40x	1	5
J6	6-00-00	9 1/2" NI-40x	1	4
J7	4-00-00	9 1/2" NI-40x	1	3
J8	2-00-00	9 1/2" NI-40x	1	2
B2	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B8	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B3	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
4	H3	HUS1.81/10

DATE: 2021-07-16

1st FLOOR

STD W/ OPT.
GROUND FLOOR



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14 COVENTRY

ELEVATION: A, B, C

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

DESIGNER: EEO

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:

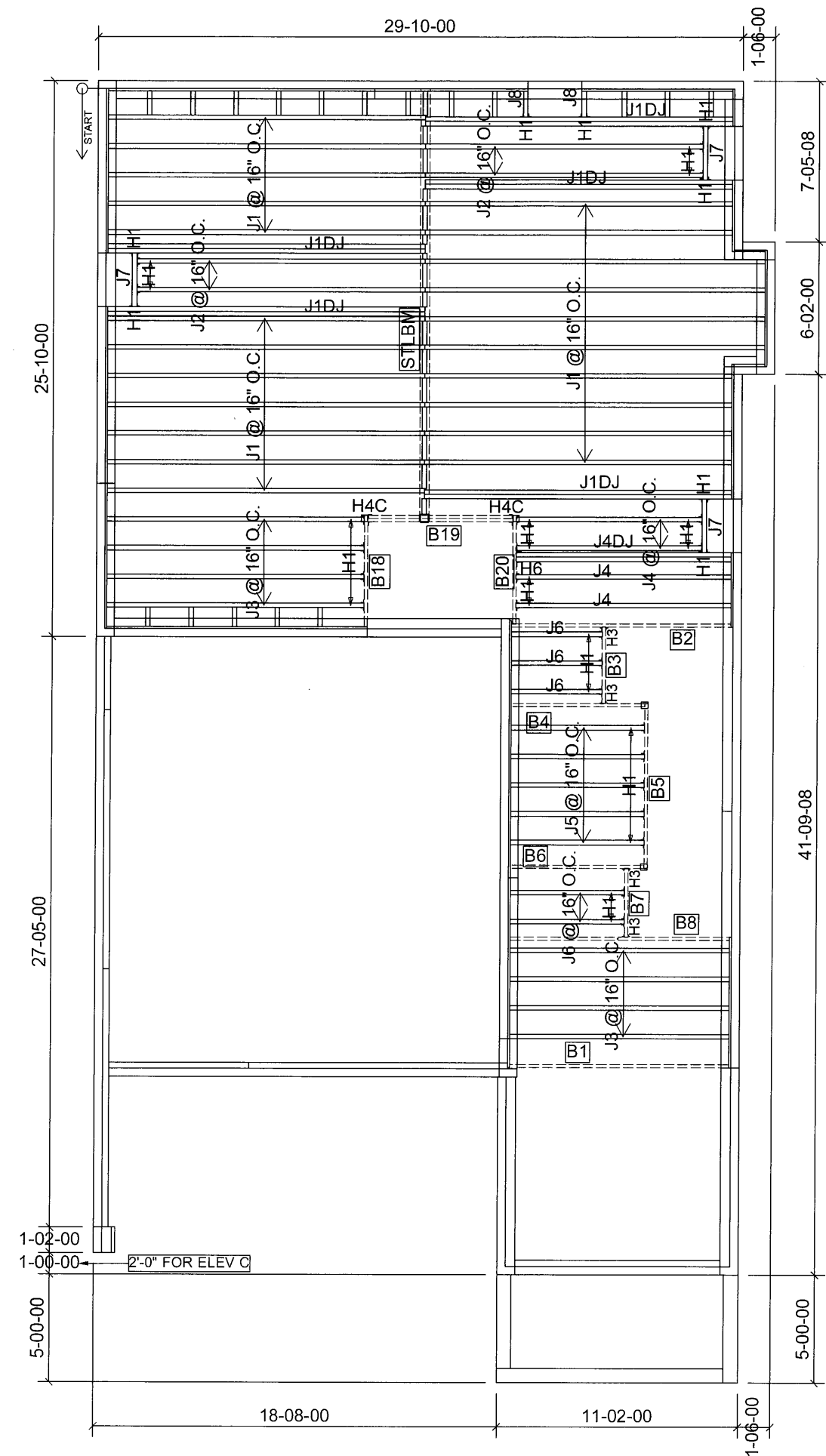
DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED



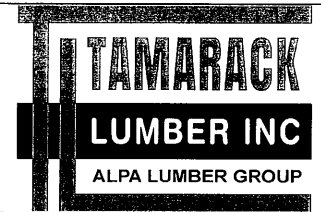
Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	22
J1DJ	16-00-00	9 1/2" NI-40x	2	10
J2	14-00-00	9 1/2" NI-40x	1	4
J3	12-00-00	9 1/2" NI-40x	1	8
J4	10-00-00	9 1/2" NI-40x	1	4
J4DJ	10-00-00	9 1/2" NI-40x	2	2
J5	8-00-00	9 1/2" NI-40x	1	5
J6	6-00-00	9 1/2" NI-40x	1	5
J7	4-00-00	9 1/2" NI-40x	1	3
J8	2-00-00	9 1/2" NI-40x	1	2
B1	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B2	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B8	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B19	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B18	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B20	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B3	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
18	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
4	H3	HUS1.81/10
2	H4C	HUC410
1	H6	HU312-2

DATE: 2021-07-16

1st FLOOR

SUNKEN



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: A, B, C

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

DESIGNER: EEO

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:

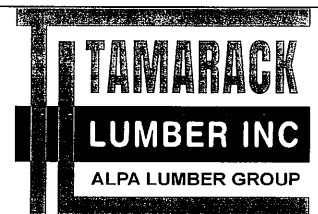
DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft²

DEAD LOAD: 15.0 lb/ft²

TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: A, B, C

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

DESIGNER: EEO

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: 15.0 lb/ft²

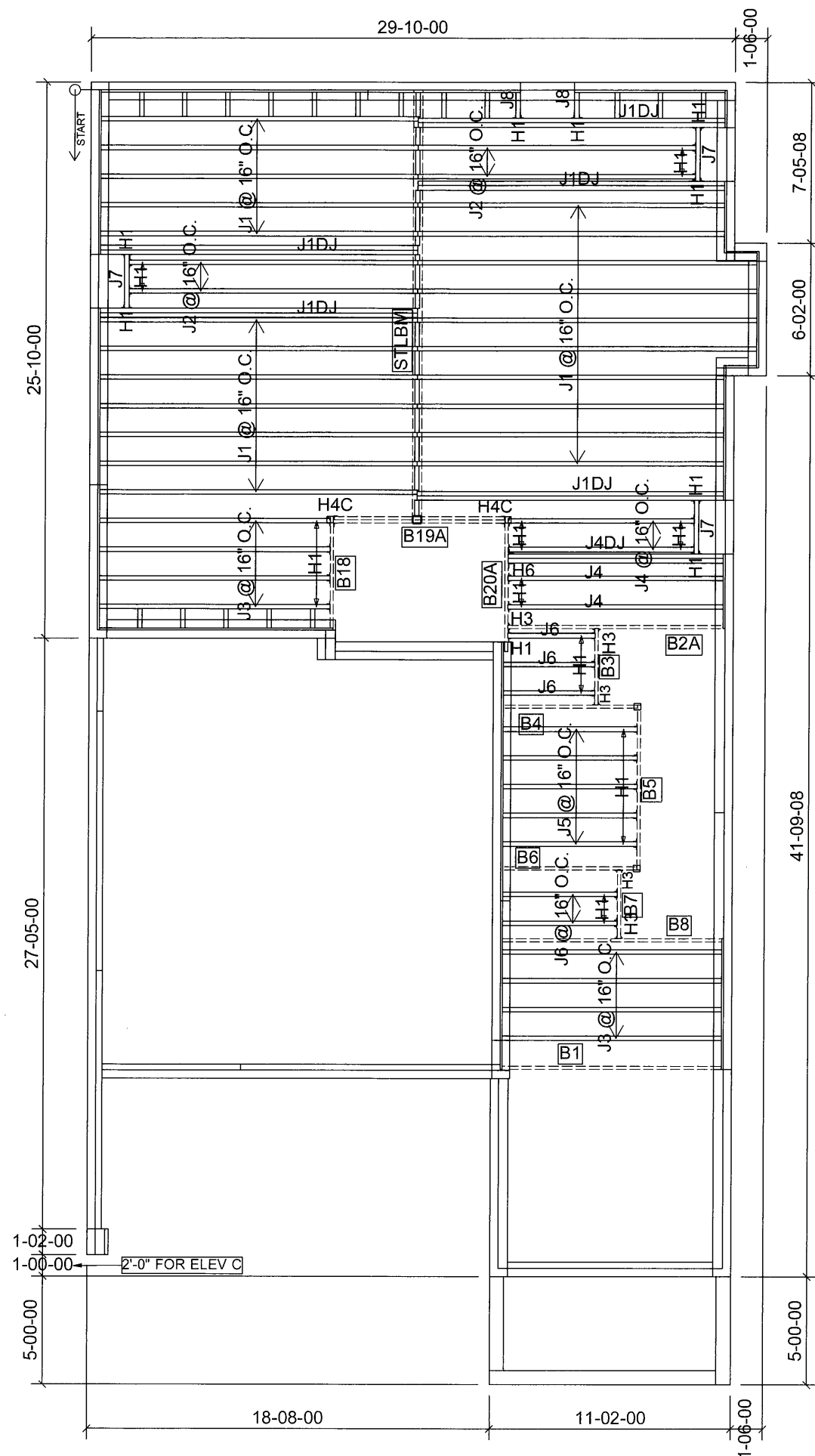
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 2021-07-16

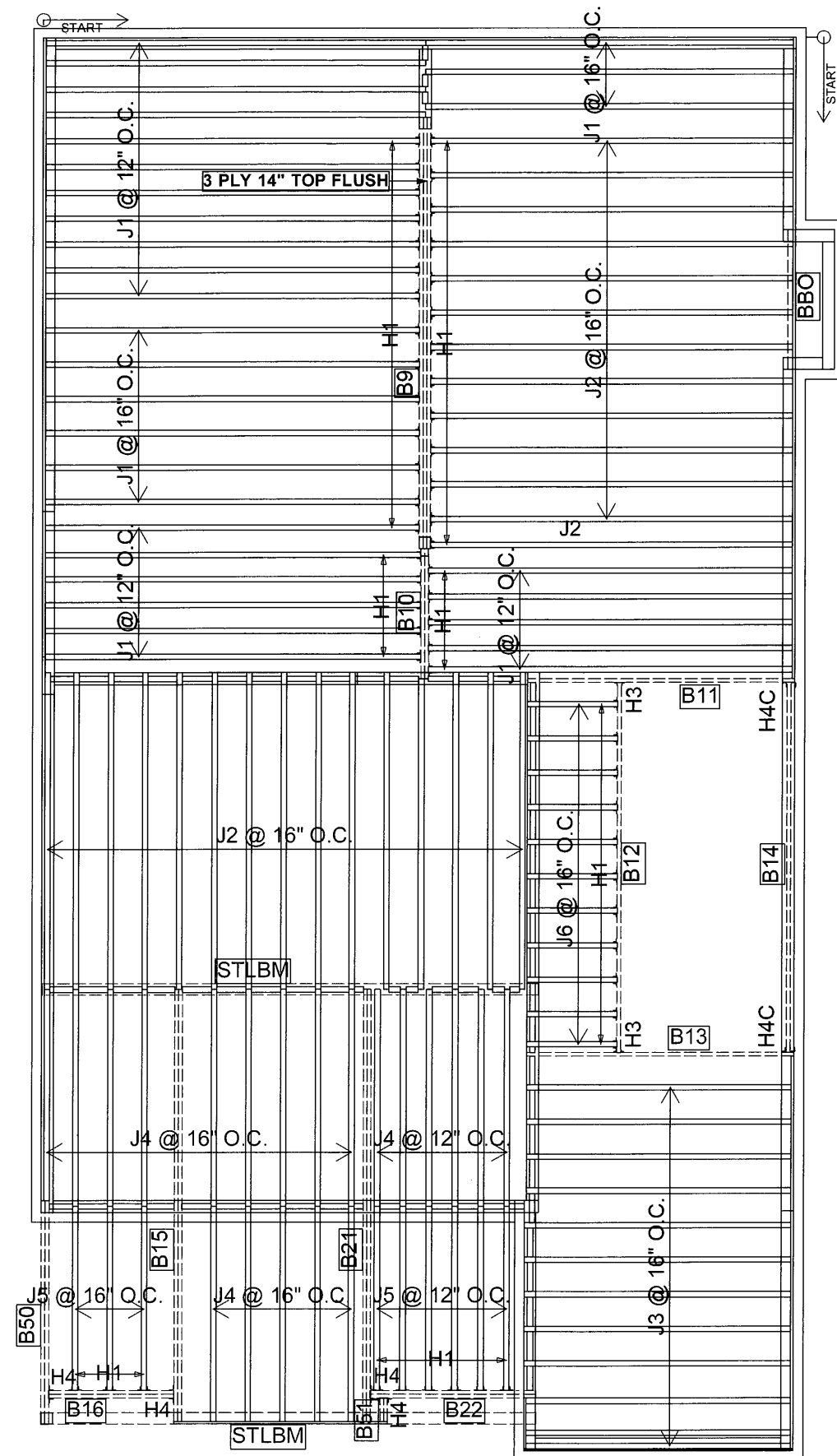
1st FLOOR

SUNKEN W/ OPT.
GROUND FLOOR



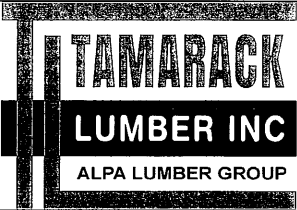
Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	22
J1DJ	16-00-00	9 1/2" NI-40x	2	10
J2	14-00-00	9 1/2" NI-40x	1	4
J3	12-00-00	9 1/2" NI-40x	1	8
J4	10-00-00	9 1/2" NI-40x	1	4
J4DJ	10-00-00	9 1/2" NI-40x	2	2
J5	8-00-00	9 1/2" NI-40x	1	5
J6	6-00-00	9 1/2" NI-40x	1	5
J7	4-00-00	9 1/2" NI-40x	1	3
J8	2-00-00	9 1/2" NI-40x	1	2
B1	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B8	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B2A	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B20A	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B4	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B5	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B6	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B19A	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B18	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B3	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B7	4-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
19	H1	IUS2.56/9.5
8	H1	IUS2.56/9.5
6	H1	IUS2.56/9.5
5	H3	HUS1.81/10
2	H4C	HUC410
1	H6	HU312-2



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	31
J2	14-00-00	9 1/2" NI-40x	1	28
J3	12-00-00	9 1/2" NI-40x	1	12
J4	10-00-00	9 1/2" NI-40x	1	20
J5	8-00-00	9 1/2" NI-40x	1	9
J6	4-00-00	9 1/2" NI-40x	1	11
B15	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B21	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B12	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B50	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B22	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B16	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B51	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	3	3

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
19	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
2	H3	HUS1.81/10
2	H4C	HUC410
4	H4	HGUS410



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: A

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

DESIGNER: EEO

REVISION:

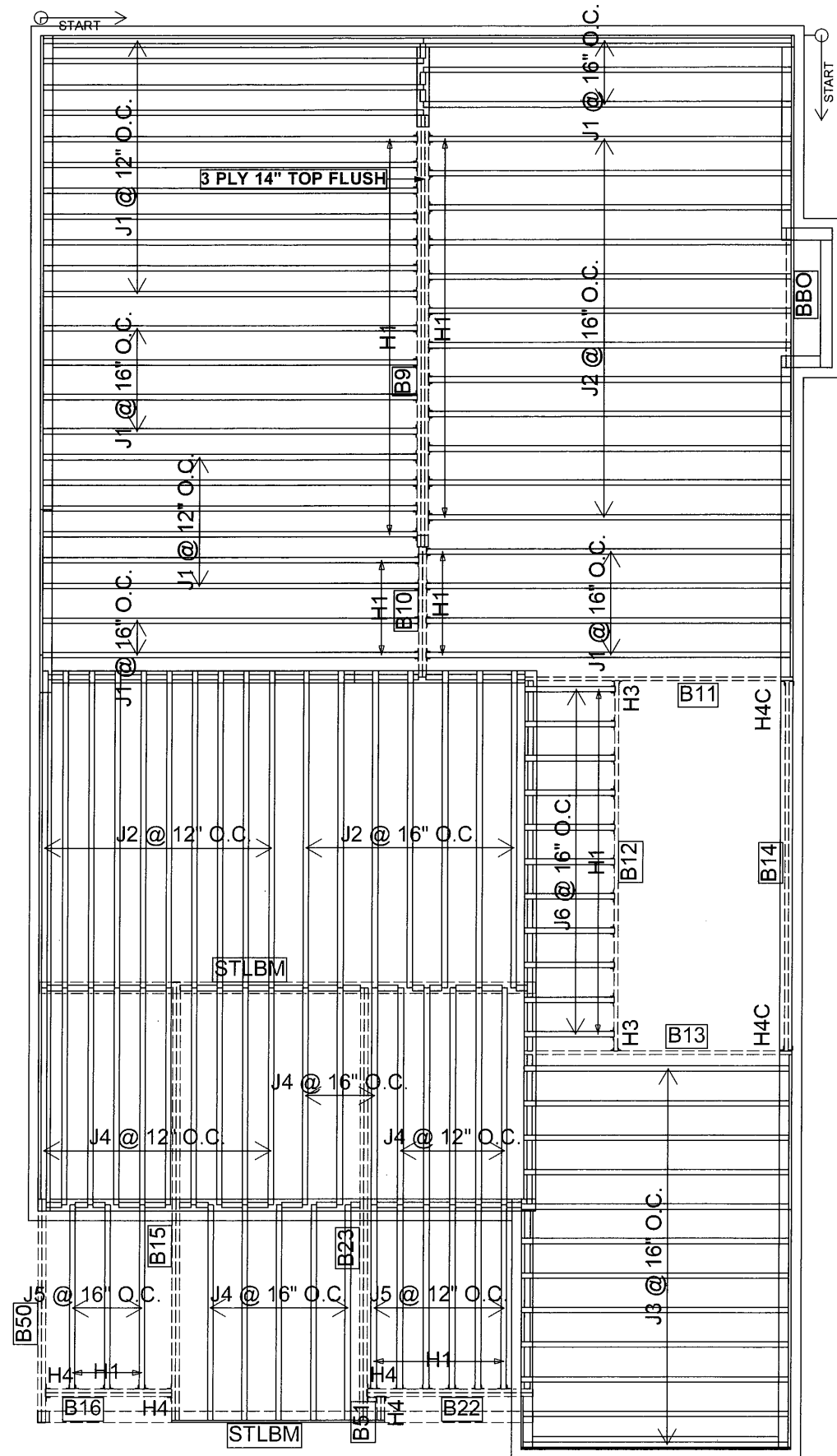
NOTES:
REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** 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: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

DATE: 2021-07-16

2ND FLOOR

SUBFLOOR: 5/8" GLUED AND NAILED



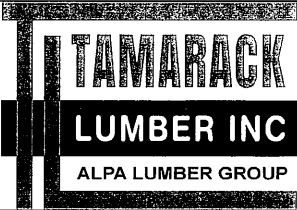
Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	30
J2	14-00-00	9 1/2" NI-40x	1	29
J3	12-00-00	9 1/2" NI-40x	1	12
J4	10-00-00	9 1/2" NI-40x	1	23
J5	8-00-00	9 1/2" NI-40x	1	9
J6	4-00-00	9 1/2" NI-40x	1	11
B15	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B23	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B12	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B50	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B22	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B16	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B51	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	3	3

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
17	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
2	H3	HUS1.81/10
2	H4C	HUC410
4	H4	HGUS410

DATE: 2021-07-16

2ND FLOOR

OPT. SECOND FLOOR



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: A

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

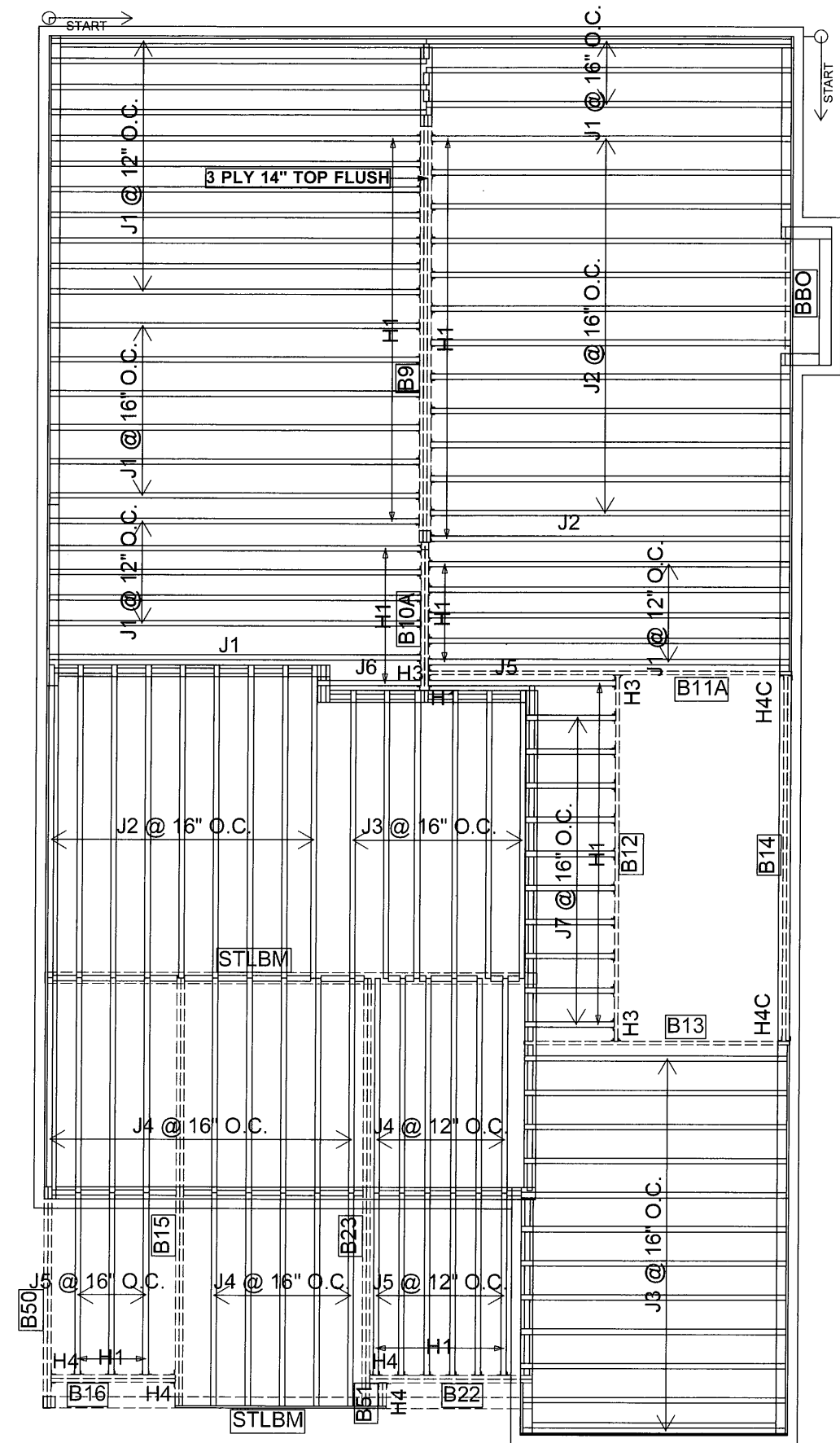
DESIGNER: EEO

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: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	31
J2	14-00-00	9 1/2" NI-40x	1	22
J3	12-00-00	9 1/2" NI-40x	1	18
J4	10-00-00	9 1/2" NI-40x	1	20
J5	8-00-00	9 1/2" NI-40x	1	10
J6	6-00-00	9 1/2" NI-40x	1	1
J7	4-00-00	9 1/2" NI-40x	1	10
B15	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B23	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11A	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B12	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B50	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10A	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B22	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B16	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B51	2-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	3	3

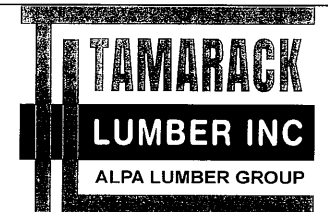
Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
21	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10
2	H4C	HUC410
4	H4	HGUS410

DATE: 2021-07-16

2ND FLOOR

STD W/ OPT.
GROUND FLOOR

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²
SUBFLOOR: 5/8" GLUED AND NAILED



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: A

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

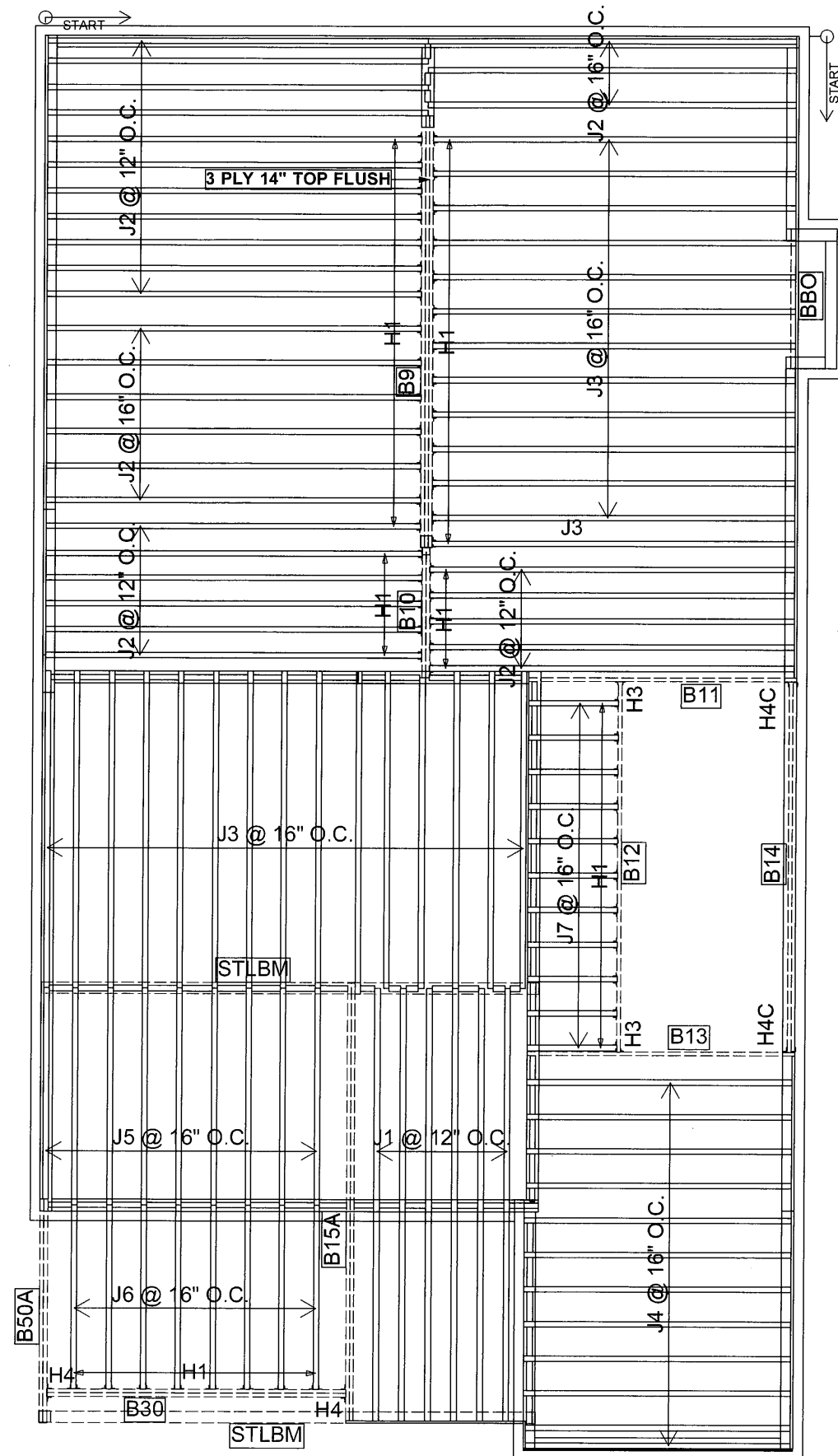
DESIGNER: EEO

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.

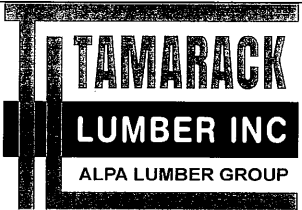


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	1	6
J2	16-00-00	9 1/2" NI-40x	1	31
J3	14-00-00	9 1/2" NI-40x	1	28
J4	12-00-00	9 1/2" NI-40x	1	12
J5	10-00-00	9 1/2" NI-40x	1	9
J6	8-00-00	9 1/2" NI-40x	1	8
J7	4-00-00	9 1/2" NI-40x	1	11
B15A	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B12	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B30	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B50A	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	3	3

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
18	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
2	H3	HUS1.81/10
2	H4C	HUC410
2	H4	HGUS410

DATE: 2021-07-16

2ND FLOOR



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: B

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

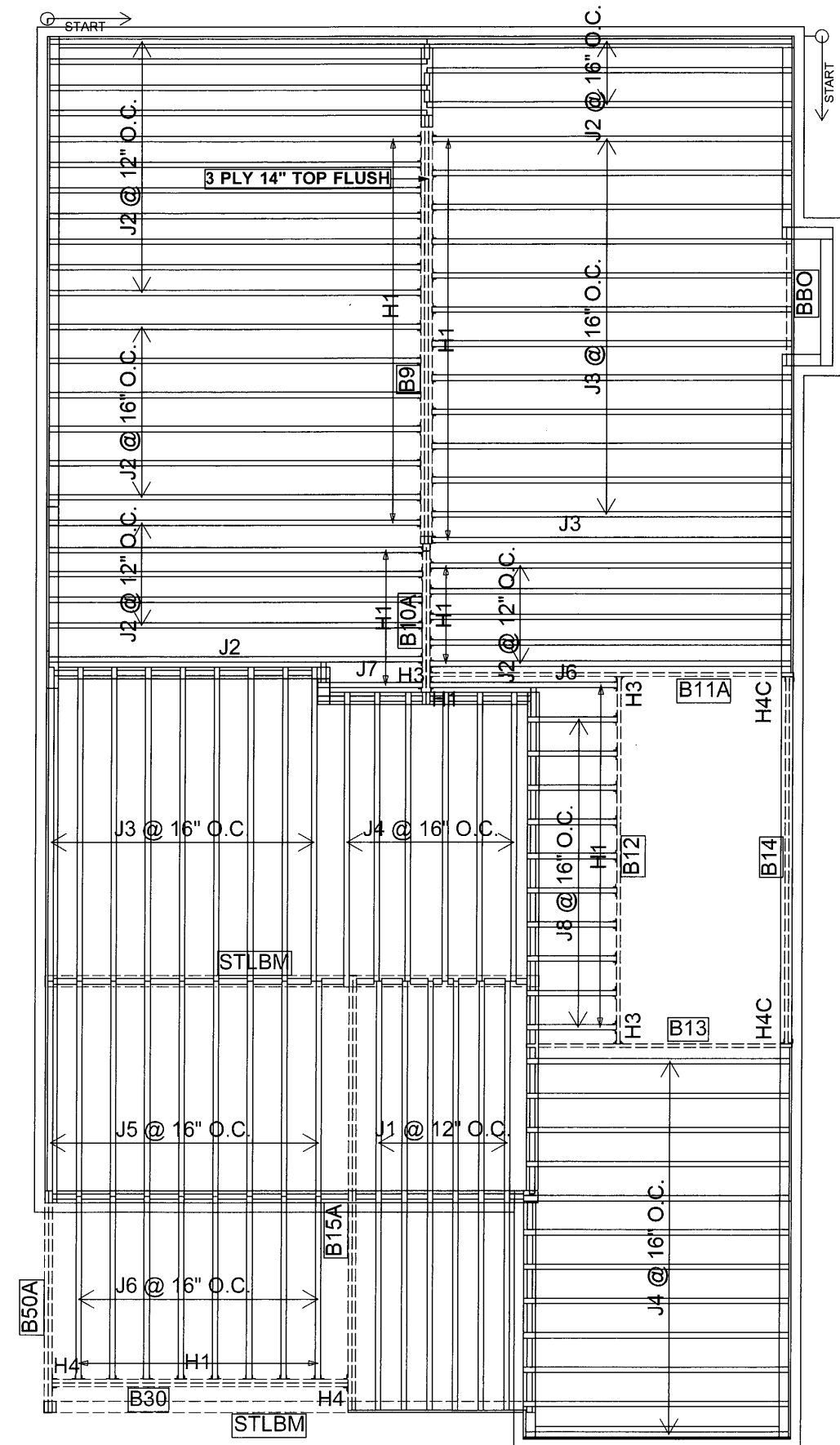
DESIGNER: EEO

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.

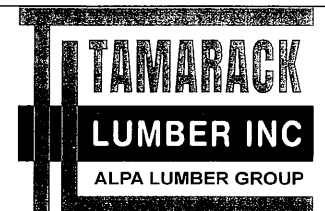
LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	1	6
J2	16-00-00	9 1/2" NI-40x	1	31
J3	14-00-00	9 1/2" NI-40x	1	22
J4	12-00-00	9 1/2" NI-40x	1	18
J5	10-00-00	9 1/2" NI-40x	1	9
J6	8-00-00	9 1/2" NI-40x	1	9
J7	6-00-00	9 1/2" NI-40x	1	1
J8	4-00-00	9 1/2" NI-40x	1	10
B15A	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11A	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B12	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B30	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B50A	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10A	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	3	3

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
20	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10
2	H4C	HUC410
2	H4	HGUS410



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: B

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

DESIGNER: EEO

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: 15.0 lb/ft²

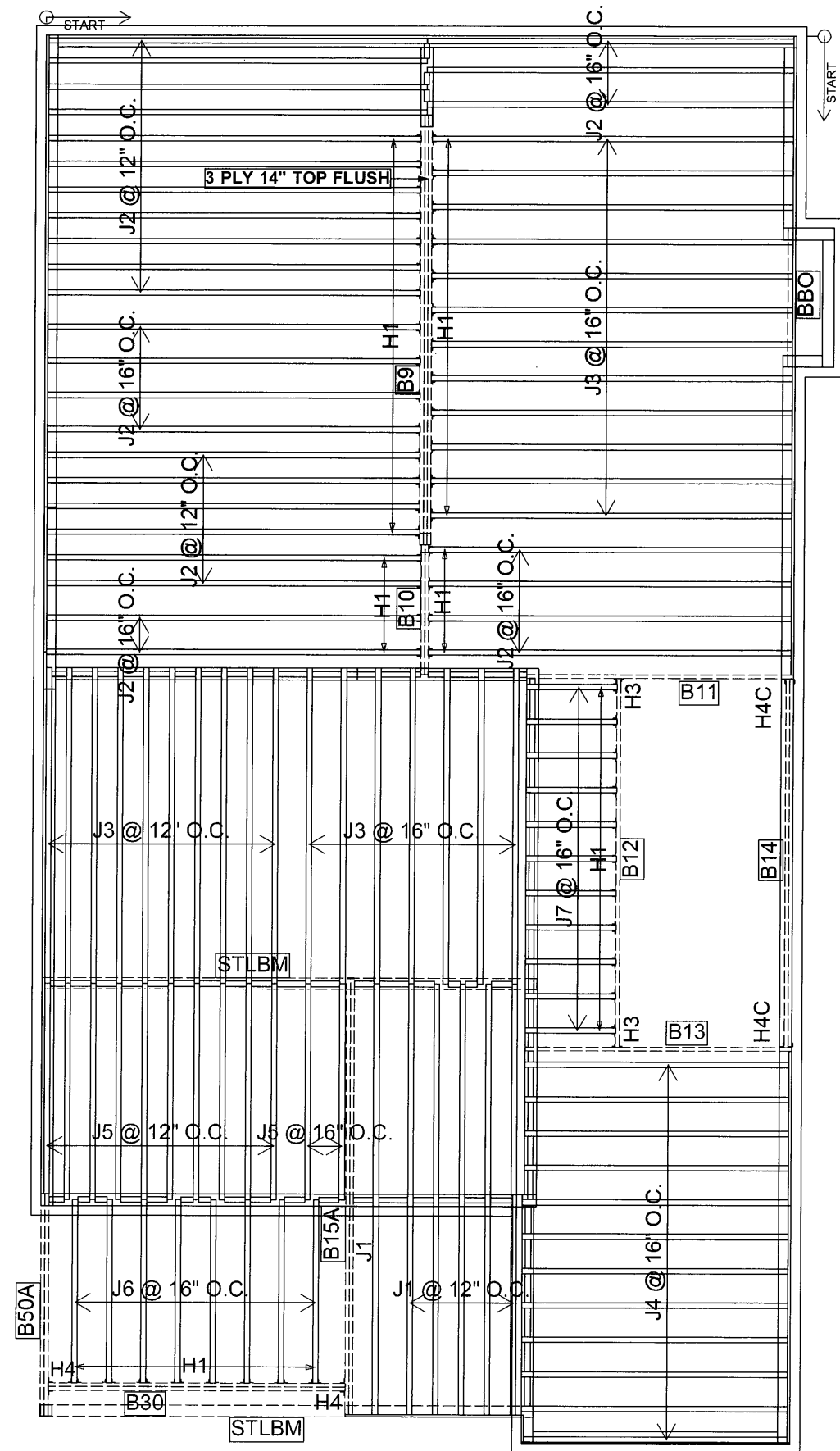
TILE LOAD: 20.0 lb/ft²

DATE: 2021-07-16

2ND FLOOR

STD W/ OPT.
GROUND FLOOR

SUBFLOOR: 5/8" GLUED AND NAILED



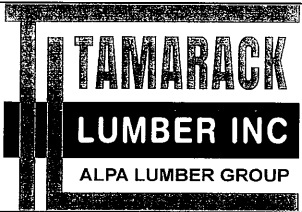
Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	9 1/2" NI-40x	1	6
J2	16-00-00	9 1/2" NI-40x	1	30
J3	14-00-00	9 1/2" NI-40x	1	29
J4	12-00-00	9 1/2" NI-40x	1	12
J5	10-00-00	9 1/2" NI-40x	1	12
J6	8-00-00	9 1/2" NI-40x	1	8
J7	4-00-00	9 1/2" NI-40x	1	11
B15A	18-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B12	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B30	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B50A	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	3	3

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
16	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
2	H3	HUS1.81/10
2	H4C	HUC410
2	H4	HGUS410

DATE: 2021-07-16

2ND FLOOR

OPT. SECOND FLOOR



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: B

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

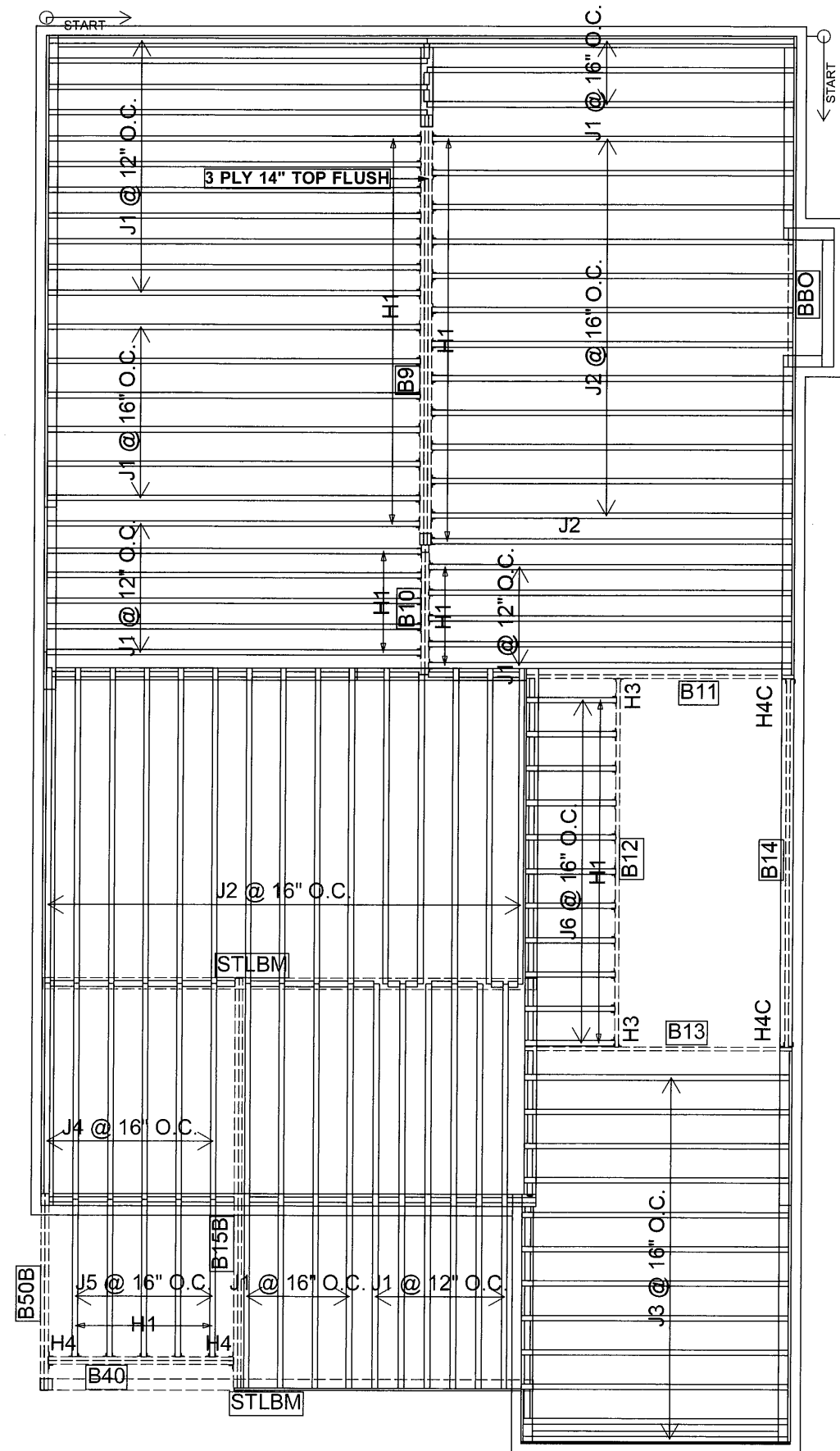
DESIGNER: EEO

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.

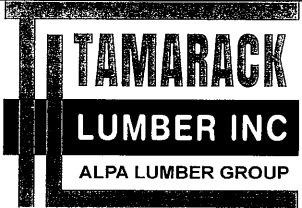
LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	41
J2	14-00-00	9 1/2" NI-40x	1	28
J3	12-00-00	9 1/2" NI-40x	1	12
J4	10-00-00	9 1/2" NI-40x	1	6
J5	8-00-00	9 1/2" NI-40x	1	5
J6	4-00-00	9 1/2" NI-40x	1	11
B12	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B15B	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B40	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B50B	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	3	3

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
15	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
2	H3	HUS1.81/10
2	H4C	HUC410
2	H4	HGUS410



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: C

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

DESIGNER: EEO

REVISION:

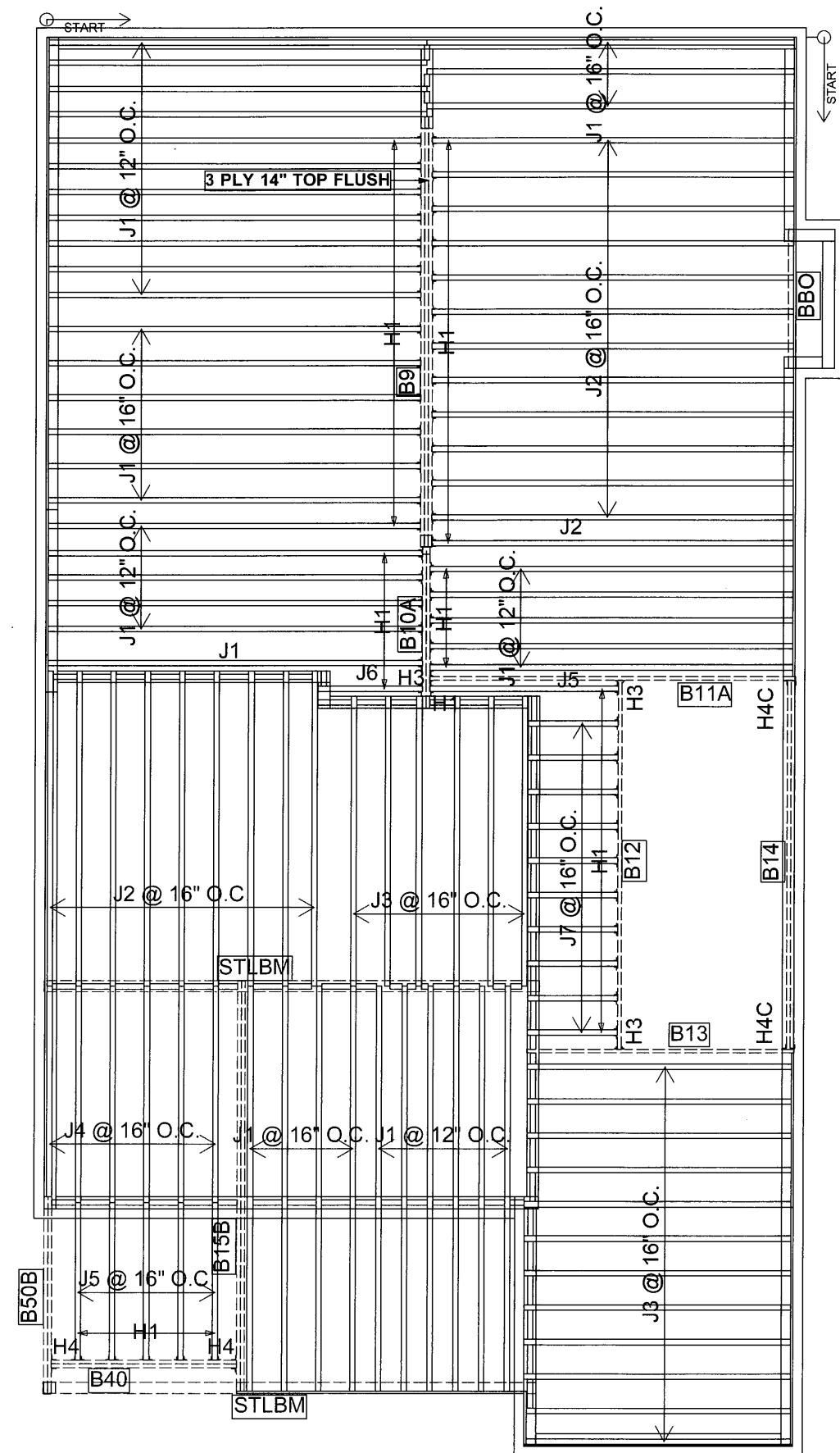
NOTES:
REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** 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: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

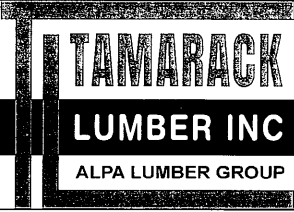
DATE: 2021-07-16

2ND FLOOR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	41
J2	14-00-00	9 1/2" NI-40x	1	22
J3	12-00-00	9 1/2" NI-40x	1	18
J4	10-00-00	9 1/2" NI-40x	1	6
J5	8-00-00	9 1/2" NI-40x	1	6
J6	6-00-00	9 1/2" NI-40x	1	1
J7	4-00-00	9 1/2" NI-40x	1	10
B11A	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B12	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B15B	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B10A	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B40	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B50B	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	3	3

Connector Summary		
Qty	Manuf	Product
11	H1	HUS1.81/10
17	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10
2	H4C	HUC410
2	H4	HGUS410



FROM PLAN DATED: 28 MAY 2021
BUILDER: ROYAL PINE HOMES
SITE: CENTREFIELD PH. 2
MODEL: 38-14
ELEVATION: C
LOT:
CITY: RICHMOND HILL
SALESMAN: WILLIAM GARCIA
DESIGNER: EEO
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.

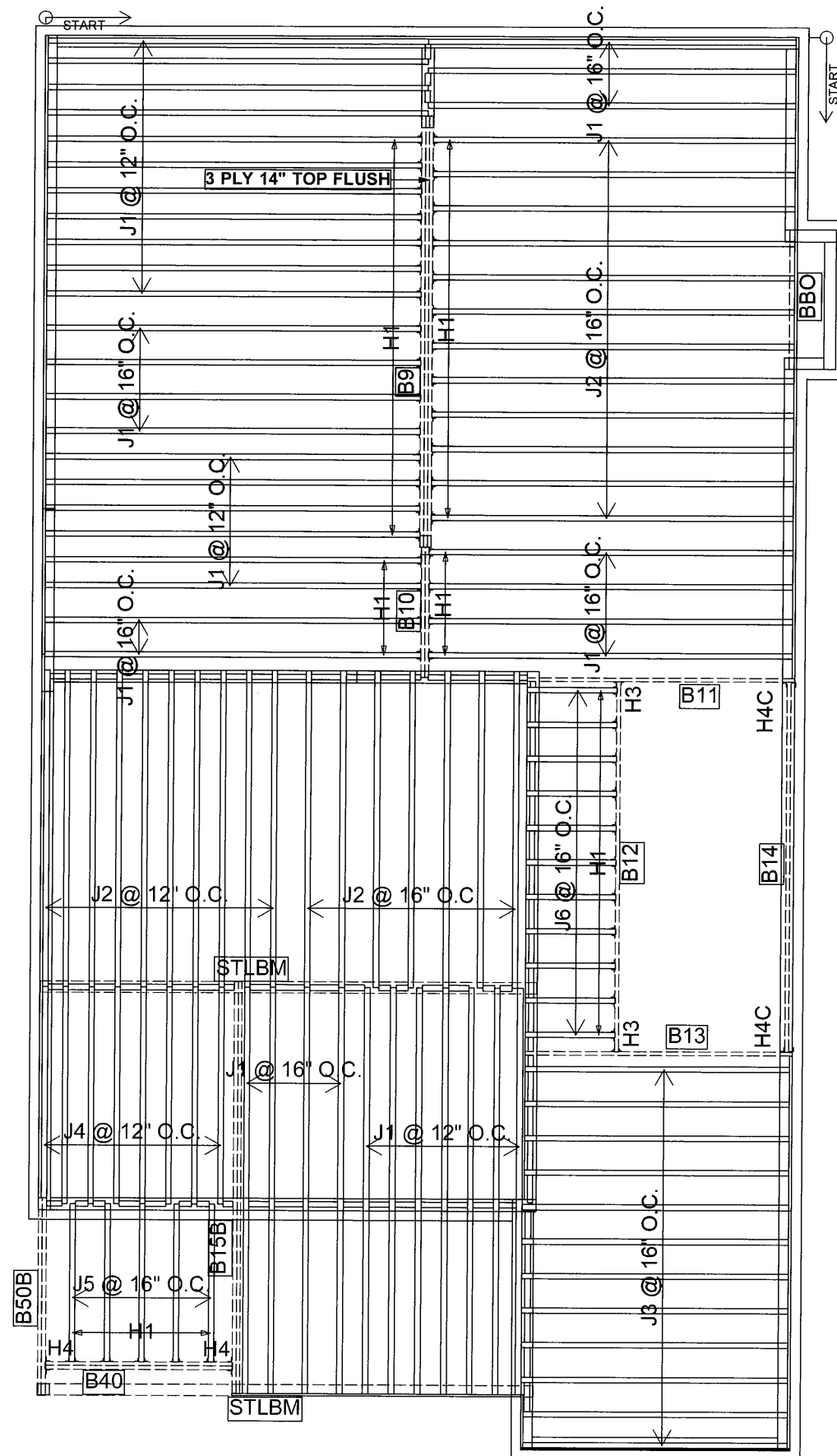
LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

DATE: 2021-07-16

2ND FLOOR

STD W/ OPT.
GROUND FLOOR

SUBFLOOR: 5/8" GLUED AND NAILED



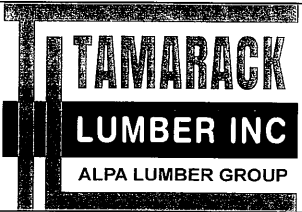
Products				
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	41
J2	14-00-00	9 1/2" NI-40x	1	29
J3	12-00-00	9 1/2" NI-40x	1	12
J4	10-00-00	9 1/2" NI-40x	1	8
J5	8-00-00	9 1/2" NI-40x	1	5
J6	4-00-00	9 1/2" NI-40x	1	11
B12	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B14	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B15B	16-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B11	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B13	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B40	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B50B	8-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B10	6-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	3	3

Connector Summary		
Qty	Manuf	Product
11	H1	IUS2.56/9.5
13	H1	IUS2.56/9.5
27	H1	IUS2.56/9.5
2	H3	HUS1.81/10
2	H4C	HUC410
2	H4	HGUS410

DATE: 2021-07-16

2ND FLOOR

OPT. SECOND FLOOR



FROM PLAN DATED: 28 MAY 2021

BUILDER: ROYAL PINE HOMES

SITE: CENTREFIELD PH. 2

MODEL: 38-14

ELEVATION: C

LOT:

CITY: RICHMOND HILL

SALESMAN: WILLIAM GARCIA

DESIGNER: EEO

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: 15.0 lb/ft²
TILE LOAD: 20.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

NORDIC STRUCTURES

COMPANY
July 5, 2021 10:15

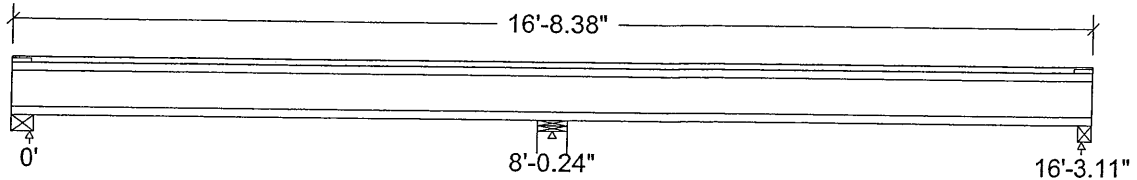
PROJECT
J1 EL B & C GARAGE

Design Check Calculation Sheet Nordic Sizer – Canada 8.0

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start End	Magnitude Start End	Unit
Load1	Dead	Full Area	No		15.00	psf
Load2	Live	Full Area	Yes		40.00	psf

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



Unfactored:					
Dead	46		149		48
Live	143		397		146
Factored:					
Total	273		782		280
Bearing:					
Capacity					
Joist	1893		4150		1869
Support	-		9724		-
Des ratio					
Joist	0.14		0.19		0.15
Support	-		0.08		-
Load case	#4		#2		#5
Length	4-1/8		5-1/2		2-5/8
Min req'd	1-1/2		3-1/2		1-1/2
Stiffener	No		No		No
KD	1.00		1.00		1.00
KB support	-		-		-
fcp sup	-		769		-
Kzcp sup	-		-		-

*Minimum bearing length for joists is 1-13/16" for exterior supports

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

Nordic 9-1/2" NI-40x Floor joist @ 12" o.c.

Supports: 1,3 - Steel Beam, W; 2 - Lumber Wall, No.1/No.2;

Total length: 16'-8.38"; Clear span: 7'-8.75", 7'-11.38"; 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	$V_f = 394$	$V_r = 1895$	lbs	$V_f/V_r = 0.21$
Moment (+)	$M_f = 498$	$M_r = 4824$	lbs-ft	$M_f/M_r = 0.10$
Moment (-)	$M_f = 575$	$M_r = 4824$	lbs-ft	$M_f/M_r = 0.12$
Perm. Defl'n	$0.01 = < L/999$	$0.27 = L/360$	in	0.02
Live Defl'n	$0.02 = < L/999$	$0.21 = L/480$	in	0.09
Total Defl'n	$0.02 = < L/999$	$0.41 = L/240$	in	0.06
Bare Defl'n	$0.02 = < L/999$	$0.27 = L/360$	in	0.08
Vibration	$L_{max} = 8'-2.9$	$L_v = 17'-7.5$	ft	0.47
Defl'n	$= 0.009$	$= 0.079$	in	0.11

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	1895	1.00	1.00	-	-	-	-	-	#2
Mr+	4824	1.00	1.00	-	1.000	-	-	-	#5
Mr-	4824	1.00	1.00	-	1.000	-	-	-	#2
EI	218.1 million	-	-	-	-	-	-	-	#5

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = 1.25D + 1.5L
 Moment (+) : LC #5 = 1.25D + 1.5L (pattern: _L)
 Moment (-) : LC #2 = 1.25D + 1.5L
 Deflection: LC #1 = 1.0D (permanent)
 LC #5 = 1.0D + 1.0L (pattern: _L) (live)
 LC #5 = 1.0D + 1.0L (pattern: _L) (total)
 LC #5 = 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
 Support 3 - LC #5 = 1.25D + 1.5L (pattern: _L)

Load Types: D=dead L=live(use, occupancy)

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:

$EI_{eff} = 258.29 \text{ lb-in}^2$ $K = 4.94e06 \text{ lbs}$ $GA = 0.62e06 \text{ lb}$

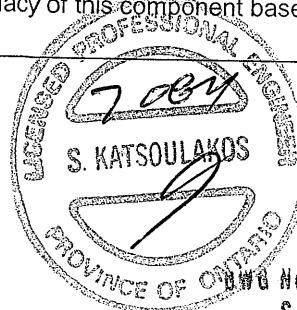
"Live" deflection is due to all non-dead loads (live, wind, snow...)

CONFORMS TO OBC 2012

Design Notes:

AMENDED 2020

- 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).
- Please verify that the default deflection limits are appropriate for your application.
- Refer to Nordic Structures technical documentation for installation guidelines and construction details.
- Nordic I-joists are listed in CCMC evaluation report 13032-R.
- Joists shall be laterally supported at supports and continuously along the compression edge.
- Allowable vibration-controlled span as per the Concluding Report, Development of Design Procedures for Vibration Controlled Spans using Engineered Wood Members, CWC et al for CCMC, 1997.
- Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
- 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. TAM14863-21
 STRUCTURAL
 COMPONENT ONLY



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

1ST FLR FRAMING\Flush Beams\B2(i8565) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

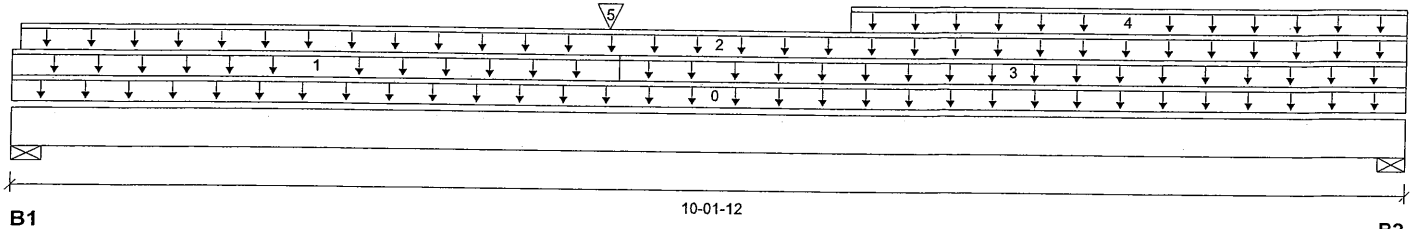
File name: 38-14 EL A SUNKEN.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B2(i8565)

Specifier:

Designer: EEO

Company:



Total Horizontal Product Length = 10-01-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	322 / 0	236 / 0		
B2, 4-3/8"	254 / 0	356 / 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	10-01-12	Top	1.00	0.65	1.00	1.15	
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	04-04-06	Top	8	4			00-00-00
2	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-10	10-01-12	Top	19	9			n/a
3	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	04-04-06	10-01-12	Top	3	2			n/a
4	WALL	Unf. Lin. (lb/ft)	L	06-00-06	10-01-12	Top	60				n/a
5	B3(i8509)	Conc. Pt. (lbs)	L	04-03-08	04-03-08	Top	336	176			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2534 ft-lbs	11610 ft-lbs	21.8%	1	04-03-08
End Shear	707 lbs	5785 lbs	12.2%	1	01-01-14
Total Load Deflection	L/999 (0.107")	n/a	n/a	4	04-11-14
Live Load Deflection	L/999 (0.058")	n/a	n/a	5	04-10-10
Max Defl.	0.107"	n/a	n/a	4	04-11-14
Span / Depth	12.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-3/8" x 1-3/4"	777 lbs	16.5%	8.3%	Spruce-Pine-Fir
B2	Wall/Plate 4-3/8" x 1-3/4"	826 lbs	17.5%	8.8%	Spruce-Pine-Fir

Notes

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

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 05-05-00.

CONFORMS TO CBC 2012

AMENDED 2020


 DWG NO. TAM14864-21
 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™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



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

1ST FLR FRAMING\Flush Beams\B8(i8501) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

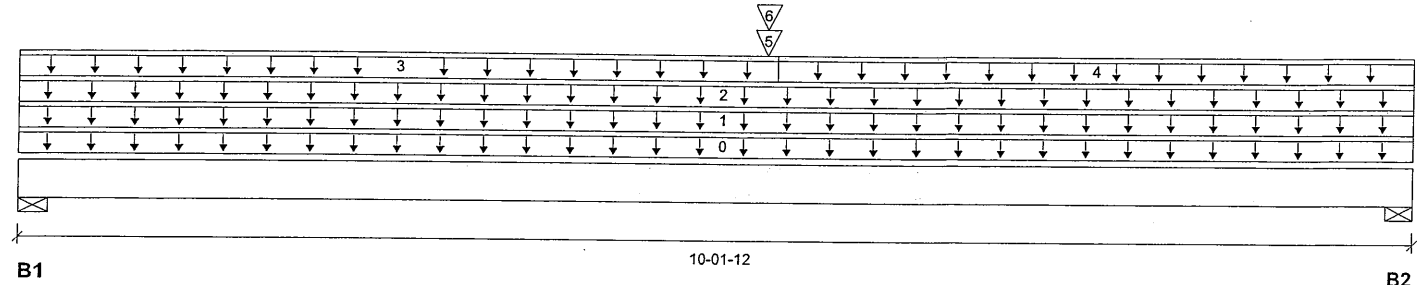
File name: 38-14 EL A SUNKEN.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B8(i8501)

Specifier:

Designer: EEO

Company:



Total Horizontal Product Length = 10-01-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	282 / 0	473 / 0		
B2, 4-3/8"	270 / 0	468 / 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	10-01-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	10-01-12	Top		60			n/a
2	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	10-01-12	Top	11	5			n/a
3	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	05-05-08	Top	16	8			n/a
4	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	05-05-08	10-01-12	Top	3				n/a
5	STAIR	Conc. Pt. (lbs)	L	05-04-10	05-04-10	Top	18				n/a
6	B7(i8579)	Conc. Pt. (lbs)	L	05-04-10	05-04-10	Top	325	170			n/a



Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	3171 ft-lbs	11610 ft-lbs	27.3%	1	05-04-10
End Shear	863 lbs	5785 lbs	14.9%	1	08-11-14
Total Load Deflection	L/838 (0.137")	n/a	28.6%	4	05-01-07
Live Load Deflection	L/999 (0.058")	n/a	n/a	5	05-01-07
Max Defl.	0.137"	n/a	n/a	4	05-01-07
Span / Depth	12.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-3/8" x 1-3/4"	663 lbs	21.7%	10.9%	Spruce-Pine-Fir
B2	Wall/Plate 4-3/8" x 1-3/4"	655 lbs	21.4%	10.8%	Spruce-Pine-Fir

Notes

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

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 04-11-06.

CONFORMS TO OBC 2012

AMENDED 2020

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™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

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

1ST FLR FRAMING\Flush Beams\B4(i8515) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

July 7, 2021 10:38:19

Build 7773

Job name:

File name: 38-14 EL A SUNKEN.mmdl

Address:

Description: 1ST FLR FRAMING\Flush Beams\B4(i8515)

City, Province, Postal Code: RICHMOND HILL

Specifier:

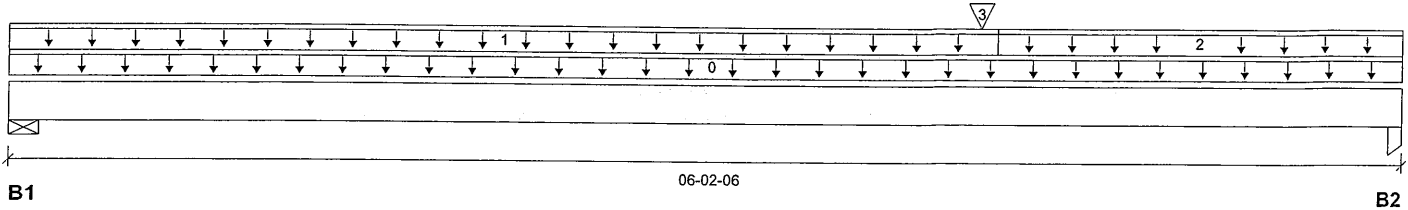
Customer:

Designer: EEO

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 06-02-06

Reaction Summary (Down / Uplift) (lbs)

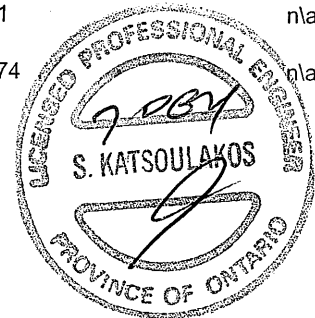
Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	208 / 0	122 / 0		
B2, 1-3/4"	310 / 0	175 / 0		

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	06-02-06	Top		5			00-00-00
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	04-04-06	Top	33	17			n/a
2	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	04-04-06	06-02-06	Top	22	11			n/a
3	B3(i8509)	Conc. Pt. (lbs)	L	04-03-08	04-03-08	Top	331	174			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1148 ft-lbs	11610 ft-lbs	9.9%	1	04-03-08
End Shear	633 lbs	5785 lbs	10.9%	1	05-03-02
Total Load Deflection	L/999 (0.017")	n/a	n/a	4	03-04-15
Live Load Deflection	L/999 (0.011")	n/a	n/a	5	03-04-15
Max Defl.	0.017"	n/a	n/a	4	03-04-15
Span / Depth	7.3				


 OWB NO. TAM/4066-21
STRUCTURAL COMPONENT ONLY

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-3/8" x 1-3/4"	464 lbs	9.9%	5.0%	Spruce-Pine-Fir
B2	Column 1-3/4" x 1-3/4"	683 lbs	27.5%	18.3%	Unspecified

Notes

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

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 03-10-04.

CONFORMS TO CBC 2012

AMENDED 2020

Disclosure

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

1ST FLR FRAMING\Flush Beams\B5(i8569) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

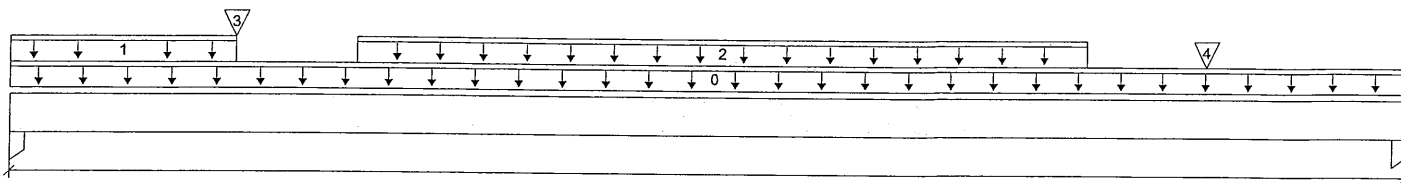
File name: 38-14 EL A SUNKEN.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B5(i8569)

Specifier:

Designer: EEO

Company:



B1

Total Horizontal Product Length = 07-07-12

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	418 / 0	227 / 0		
B2, 2-5/8"	401 / 0	219 / 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	07-07-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	01-02-06	Top	35	18			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-10-06	05-10-06	Top	124	62			n/a
3	J5(i8615)	Conc. Pt. (lbs)	L	01-02-06	01-02-06	Top	133	67			n/a
4	J5(i8717)	Conc. Pt. (lbs)	L	06-06-06	06-06-06	Top	149	75			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1819 ft-lbs	11610 ft-lbs	15.7%	1	03-10-06
End Shear	870 lbs	5785 lbs	15.0%	1	06-07-10
Total Load Deflection	L/999 (0.049")	n/a	n/a	4	03-10-06
Live Load Deflection	L/999 (0.032")	n/a	n/a	5	03-10-06
Max Defl.	0.049"	n/a	n/a	4	03-10-06
Span / Depth	9.3				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 2-5/8" x 1-3/4"	911 lbs	24.4%	16.3%	Unspecified
B2	Column 2-5/8" x 1-3/4"	876 lbs	23.5%	15.6%	Unspecified

Notes

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

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

CONFORMS TO OBC 2012

AMENDED 2020



OWC NO. TAM 14867-21

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®,



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

1ST FLR FRAMING\Flush Beams\B6(i8556) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

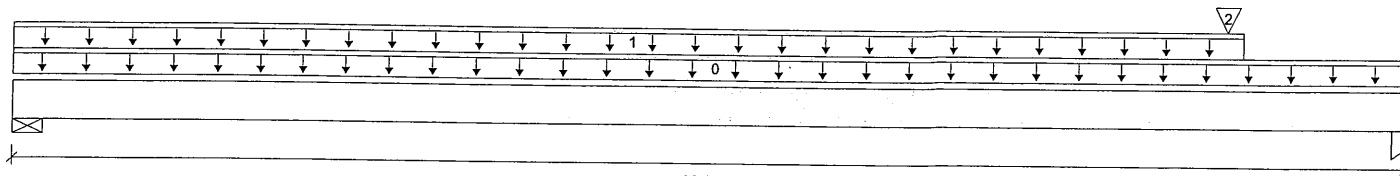
File name: 38-14 EL A SUNKEN.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B6(i8556)

Specifier:

Designer: EEO

Company:



B1

06-02-06

B2

Total Horizontal Product Length = 06-02-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	185 / 0	109 / 0		
B2, 1-3/4"	366 / 0	203 / 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	06-02-06	Top	1.00	0.65	1.00	1.15	
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	05-05-08	Top	47	23			n/a
2	B7(i8579)	Conc. Pt. (lbs)	L	05-04-10	05-04-10	Top	296	155			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	694 ft-lbs	11610 ft-lbs	6.0%	1	03-10-15
End Shear	696 lbs	5785 lbs	12.0%	1	05-03-02
Total Load Deflection	L/999 (0.012")	n/a	n/a	4	03-04-01
Live Load Deflection	L/999 (0.008")	n/a	n/a	5	03-04-01
Max Defl.	0.012"	n/a	n/a	4	03-04-01
Span / Depth	7.3				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-3/8" x 1-3/4"	414 lbs	8.8%	4.4%	Spruce-Pine-Fir
B2	Column 1-3/4" x 1-3/4"	802 lbs	32.3%	21.5%	Unspecified

Notes

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

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 04-11-06.

CONFORMS TO OBC 2012

AMENDED 2020


 DWG NO. TAM 14066-21
 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®,



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

1ST FLR FRAMING\Flush Beams\B3(i8509) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

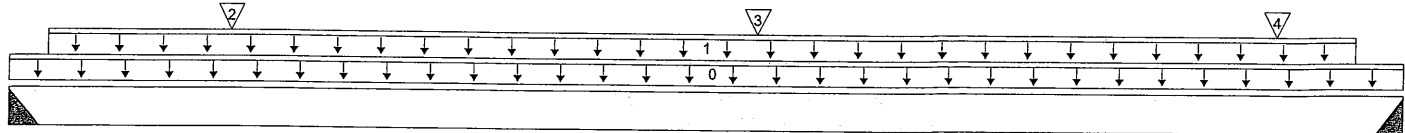
File name: 38-14 EL A SUNKEN.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B3(i8509)

Specifier:

Designer: EEO

Company:



B1

03-06-10

B2

Total Horizontal Product Length = 03-06-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	330 / 0	173 / 0		
B2, 3"	337 / 0	177 / 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	03-06-10	Top	1.00	0.65	1.00	1.15	
1	STAIR	Unf. Lin. (lb/ft)	L	00-01-02	03-05-02	Top	120	60			n/a
2	J6(i8718)	Conc. Pt. (lbs)	L	00-06-10	00-06-10	Top	82	41			n/a
3	J6(i8609)	Conc. Pt. (lbs)	L	01-10-10	01-10-10	Top	112	56			n/a
4	J6(i8608)	Conc. Pt. (lbs)	L	03-02-10	03-02-10	Top	73	36			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	557 ft-lbs	11610 ft-lbs	4.8%	1	01-10-10
End Shear	356 lbs	5785 lbs	6.2%	1	01-00-08
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	01-09-06
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	01-09-06
Max Defl.	0.003"	n/a	n/a	4	01-09-06
Span / Depth	4.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 3" x 1-3/4"	712 lbs	n/a	11.1%	HUS1.81/10
B2	Hanger 3" x 1-3/4"	726 lbs	n/a	11.3%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 9-1/2" LVL Beam.

Hanger model HUS1.81/10 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.

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

CONFORMS TO OBC 2012

AMENDED 2020



DWG NO. YAM 14869-21

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®,



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

1ST FLR FRAMING\Flush Beams\B7(i8579) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

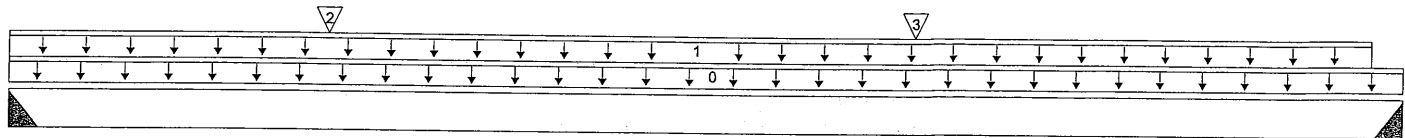
File name: 38-14 EL A SUNKEN.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B7(i8579)

Specifier:

Designer: EEO

Company:



B1

03-02-04

Total Horizontal Product Length = 03-02-04

B2

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	328 / 0	171 / 0		
B2, 3"	293 / 0	154 / 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	03-02-04	Top	1.00	0.65	1.00	1.15	00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	03-01-06	Top	120	60			n/a
2	J6(i8617)	Conc. Pt. (lbs)	L	00-08-10	00-08-10	Top	113	56			n/a
3	J6(i8616)	Conc. Pt. (lbs)	L	02-00-10	02-00-10	Top	135	67			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	463 ft-lbs	11610 ft-lbs	4.0%	1	01-09-09
End Shear	379 lbs	5785 lbs	6.6%	1	02-01-12
Total Load Deflection	L/999 (0.002")	n/a	n/a	4	01-07-05
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	01-07-05
Max Defl.	0.002"	n/a	n/a	4	01-07-05
Span / Depth	3.6				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 3" x 1-3/4"	707 lbs	n/a	11.0%	HUS1.81/10
B2	Hanger 3" x 1-3/4"	632 lbs	n/a	9.9%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 9-1/2" LVL Beam.

Hanger model HUS1.81/10 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.

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.



OWG NO. TAM14870-21
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.

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CONFORMS TO OBC 2012



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

PASSED

2ND FLR FRAMING\Flush Beams\B15(i7627) (Flush Beam)

BC CALC® Member Report

Dry | 2 spans | No cant.

July 7, 2021 10:38:19

Build 7773

Job name:

File name: 38-14 EL A SUNKEN.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B15(i7627)

City, Province, Postal Code: RICHMOND HILL

Specifier:

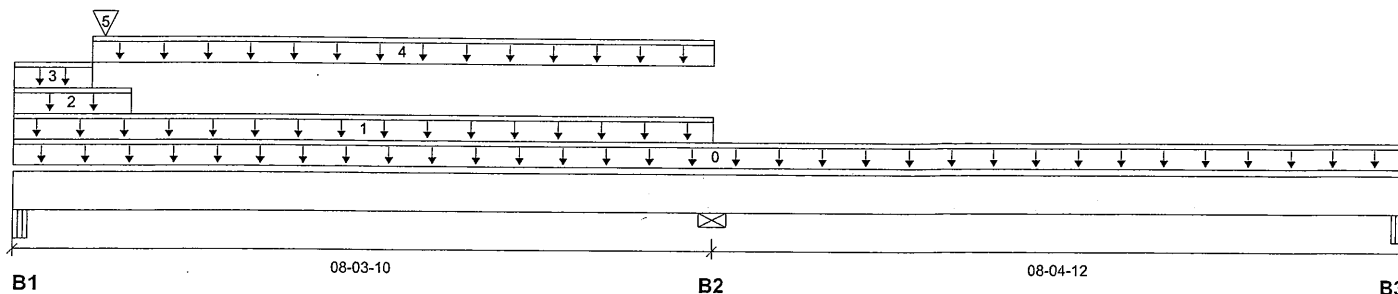
Customer:

Designer: EEO

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 16-08-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-1/8"	442 / 0	665 / 0	318 / 0	
B2, 5-1/2"	307 / 0	303 / 0	38 / 0	
B3, 2-5/8"	0 / 32	7 / 0	0 / 6	

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	16-08-06	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	08-03-10	Top	27	14			n/a
2	E29(i97)	Unf. Lin. (lb/ft)	L	00-00-00	01-04-06	Top		63	140		n/a
3	E29(i97)	Unf. Lin. (lb/ft)	L	00-00-00	00-10-14	Top		81			n/a
4	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-10-14	08-03-10	Top	26	13			n/a
5	B16(i7581)	Conc. Pt. (lbs)	L	01-00-10	01-00-10	Top	292	443	159		n/a

Controls Summary

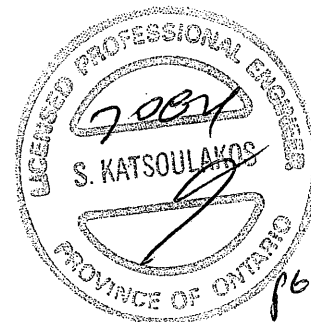
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1329 ft-lbs	23219 ft-lbs	5.7%	1	02-05-11
Neg. Moment	-800 ft-lbs	-18777 ft-lbs	4.3%	1	08-03-10
End Shear	1324 lbs	11571 lbs	11.4%	1	01-01-10
Cont. Shear	603 lbs	11571 lbs	5.2%	1	07-03-06
Total Load Deflection	L/999 (0.02")	n/a	n/a	35	03-09-04
Live Load Deflection	L/999 (0.012")	n/a	n/a	51	03-09-04
Total Neg. Defl.	L/999 (-0.007")	n/a	n/a	35	11-07-05
Max Defl.	0.02"	n/a	n/a	35	03-09-04
Span / Depth	10.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 4-1/8" x 3-1/2"	1812 lbs	23.5%	10.3%	Unspecified
B2	Wall/Plate 5-1/2" x 3-1/2"	877 lbs	7.4%	3.7%	Spruce-Pine-Fir
B3	Beam 2-5/8" x 3-1/2"	10 lbs	0.3%	0.1%	Unspecified

Cautions

Concentrated side load(s) 10 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.



VERBODEN TOEGANG
STRUCTURAL
COMPONENT ONLY

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

File name: 38-14 EL A SUNKEN.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B15(i7627)

Specifier:

Designer: EEO

Company:

Notes

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

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

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.

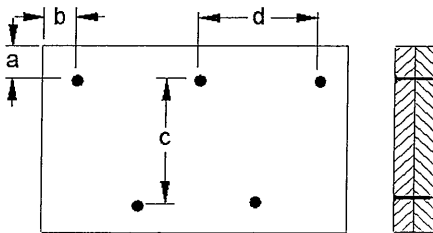
Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 07-11-06.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 5-1/2"

d = 8"

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL



ENG. NO. 14871-21

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®,



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

PASSED

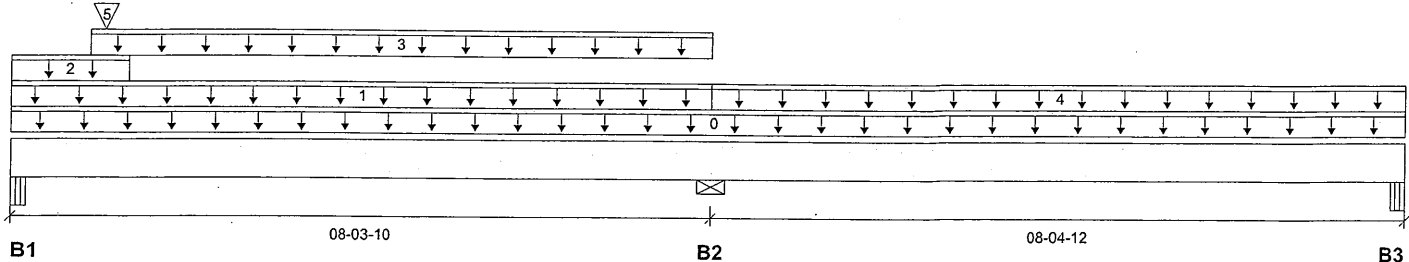
2ND FLR FRAMING\Flush Beams\B21(i8140) (Flush Beam)

 BC CALC® Member Report
 Build 7773

Dry | 2 spans | No cant.

July 7, 2021 10:38:19

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

 File name: 38-14 EL A SUNKEN.mmdl
 Description: 2ND FLR FRAMING\Flush Beams\B21(i8140)
 Specifier:
 Designer: EEO
 Company:


Total Horizontal Product Length = 16-08-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-1/8"	473 / 25	974 / 0	930 / 0	
B2, 5-1/2"	524 / 0	466 / 0	146 / 0	
B3, 2-5/8"	175 / 30	87 / 0	0 / 23	

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	16-08-06	Top		10			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	08-03-10	Top	25	13			n/a
2	E41(i4902)	Unf. Lin. (lb/ft)	L	00-00-00	01-04-06	Top		144	140		n/a
3	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-10-14	08-03-10	Top	21	11			n/a
4	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	08-03-10	16-08-06	Top	47	23			n/a
5	-	Conc. Pt. (lbs)	L	01-01-00	01-01-00	Top	351	788	862		n/a

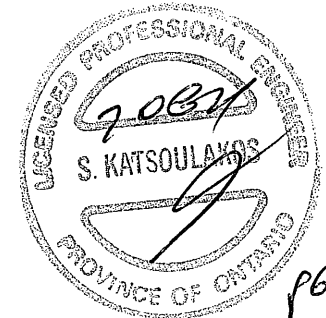
Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2235 ft-lbs	23219 ft-lbs	9.6%	38	01-01-10
Neg. Moment	-1427 ft-lbs	-18777 ft-lbs	7.6%	1	08-03-10
End Shear	2420 lbs	11571 lbs	20.9%	38	01-01-10
Cont. Shear	770 lbs	11571 lbs	6.7%	1	07-03-06
Total Load Deflection	L/999 (0.028")	n/a	n/a	82	03-07-00
Live Load Deflection	L/999 (0.018")	n/a	n/a	120	03-08-02
Total Neg. Defl.	L/999 (-0.007")	n/a	n/a	82	11-01-06
Max Defl.	0.028"	n/a	n/a	82	03-07-00
Span / Depth	10.4				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	4-1/8" x 3-1/2"	3086 lbs	40.0%	17.5%	Unspecified
B2 Wall/Plate	5-1/2" x 3-1/2"	1515 lbs	12.8%	6.4%	Spruce-Pine-Fir
B3 Beam	2-5/8" x 3-1/2"	371 lbs	7.6%	3.3%	Unspecified

Cautions

Concentrated side load(s) 9 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.


 OWE NO. TAM 14872-21
 STRUCTURAL
 COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B21(i8140) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 2 spans | No cant.

July 7, 2021 10:38:19

File name: 38-14 EL A SUNKEN.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B21(i8140)

Specifier:

Designer: EEO

Company:

Notes

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

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

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.

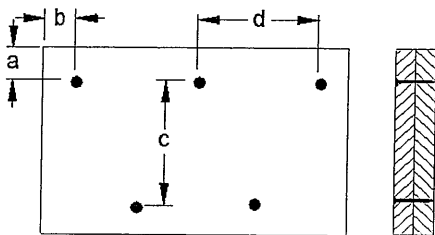
Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 07-11-06.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 5-1/2"

d = 8"

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL



OWB NO. TAM14872-21
STRUCTURAL
COMPONENT ONLY

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

2ND FLR FRAMING\Flush Beams\B12(i8443) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

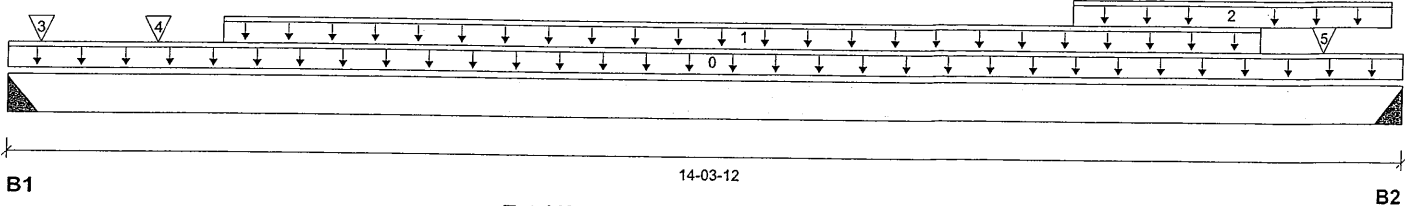
File name: 38-14 EL A SUNKEN.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B12(i8443)

Specifier:

Designer: EEO

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	544 / 0	305 / 0		
B2, 3"	832 / 0	451 / 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	14-03-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	02-01-12	12-09-12	Top	71	35			n/a
2	STAIR	Unf. Lin. (lb/ft)	L	10-10-04	14-02-04	Top	120	60			n/a
3	J6(i8437)	Conc. Pt. (lbs)	L	00-03-12	00-03-12	Top	55	27			n/a
4	J6(i8149)	Conc. Pt. (lbs)	L	01-05-12	01-05-12	Top	89	44			n/a
5	J6(i8466)	Conc. Pt. (lbs)	L	13-05-12	13-05-12	Top	79	40			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4496 ft-lbs	11610 ft-lbs	38.7%	1	08-01-12
End Shear	1526 lbs	5785 lbs	26.4%	1	13-03-04
Total Load Deflection	L/370 (0.452")	n/a	64.8%	4	07-05-12
Live Load Deflection	L/576 (0.29")	n/a	62.5%	5	07-05-12
Max Defl.	0.452"	n/a	n/a	4	07-05-12
Span / Depth	17.6				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 3" x 1-3/4"	1197 lbs	n/a	18.7%	HUS1.81/10
B2	Hanger 3" x 1-3/4"	1811 lbs	n/a	28.3%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 9-1/2" LVL Beam.

Hanger model HUS1.81/10 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.

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

CONFORMS TO OBC 2012

AMENDED 2020


 DWG NO. TAM1407321
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 0

Job name:

File name: 38-14 EL A SUNKEN.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B14(i8452)

City, Province, Postal Code: RICHMOND HILL

Specifier:

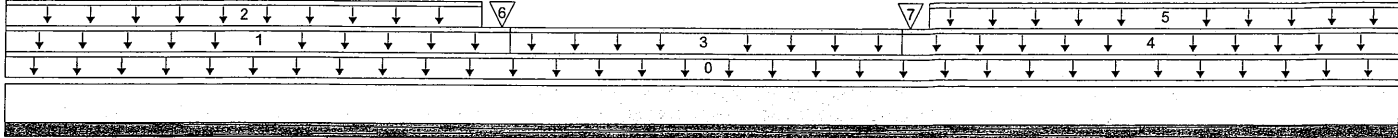
Customer:

Designer: EEO

Code reports:

CCMC 12472-R

Company:



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	14-03-12	Top		10			00-00-00
1	E49(i6592)	Unf. Lin. (lb/ft)	L	00-00-00	05-01-04	Top		82			n/a
2	E49(i6592)	Unf. Lin. (lb/ft)	L	00-00-00	04-09-12	Top		203	406		n/a
3	E48(i6496)	Unf. Lin. (lb/ft)	L	05-01-04	09-01-04	Top		42			n/a
4	E51(i6595)	Unf. Lin. (lb/ft)	L	09-01-04	14-03-12	Top		82			n/a
5	E51(i6595)	Unf. Lin. (lb/ft)	L	09-04-12	14-03-12	Top		203	406		n/a
6	E49(i6592)	Conc. Pt. (lbs)	L	05-00-04	05-00-04	Top		503	936		n/a
7	E51(i6595)	Conc. Pt. (lbs)	L	09-02-04	09-02-04	Top		497	925		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Dist. Load	964.63 lb/ft	57645.1 lb/ft	1.7%		
Conc. Load	2033 lbs	16813 lbs	12.1%		

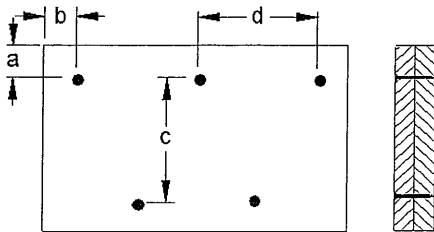
CONFORMS TO OBC 2012

AMENDED 2020

Notes

Calculations assume member is fully braced.

Connection Diagram: Full Length of Member



a minimum = 2"

c = 5-1/2"

b minimum = 3"

d = 12"

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM 14874/21
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®,

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

2ND FLR FRAMING\Flush Beams\B11(i8440) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

July 7, 2021 10:38:19

Build 7773

Job name:

File name: 38-14 EL A SUNKEN.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B11(i8440)

City, Province, Postal Code: RICHMOND HILL

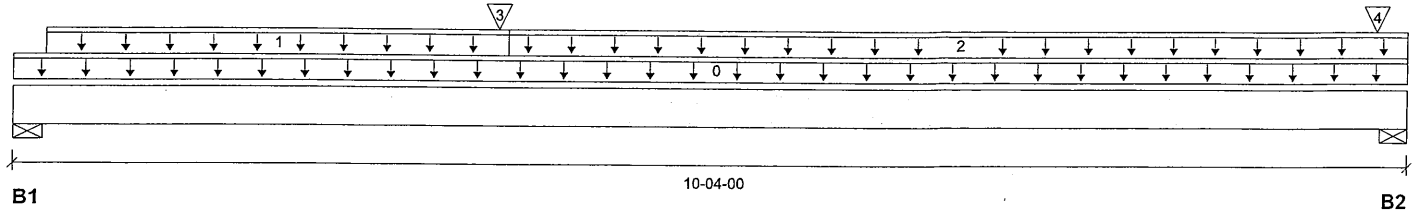
Specifier:

Customer:

Designer: EEO

Code reports: CCMC 12472-R

Company:



Total Horizontal Product Length = 10-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	619 / 0	358 / 0		
B2, 5-1/2"	301 / 0	228 / 0	59 / 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	10-04-00	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-02-12	03-07-08	Top	18	9			n/a
2	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	03-07-08	10-04-00	Top	3	2			n/a
3	-	Conc. Pt. (lbs)	L	03-06-10	03-06-10	Top	838	449			n/a
4	E25(i98)	Conc. Pt. (lbs)	L	10-01-04	10-01-04	Top	41	59			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	4090 ft-lbs	11610 ft-lbs	35.2%	1	03-06-10
End Shear	1328 lbs	5785 lbs	23.0%	1	01-03-00
Total Load Deflection	L/766 (0.15")	n/a	31.3%	35	04-08-13
Live Load Deflection	L/999 (0.095")	n/a	n/a	51	04-08-13
Max Defl.	0.15"	n/a	n/a	35	04-08-13
Span / Depth	12.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 1-3/4"	1375 lbs	23.2%	11.7%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 1-3/4"	795 lbs	13.4%	6.8%	Spruce-Pine-Fir

Notes

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

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 06-03-00.

CONFORMS TO CBC 2012

AMENDED 2020



DWD NO. TAM 14875-21

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®,



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

2ND FLR FRAMING\Flush Beams\B13(i8454) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

July 7, 2021 10:38:19

Build 7773

Job name:

File name: 38-14 EL A SUNKEN.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B13(i8454)

City, Province, Postal Code: RICHMOND HILL

Specifier:

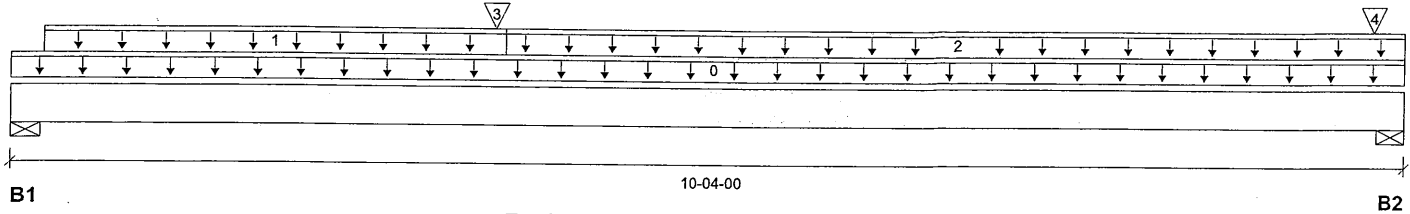
Customer:

Designer: EEO

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 10-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	518 / 0	306 / 0		
B2, 5-1/2"	324 / 0	239 / 0	59 / 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	10-04-00	Top	1.00	0.65	1.00	1.15	
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-02-12	03-07-08	Top	33	17			00-00-00
2	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	03-07-08	10-04-00	Top	27	14			n/a
3	B12(i8443)	Conc. Pt. (lbs)	L	03-06-10	03-06-10	Top	547	307			n/a
4	E50(i6594)	Conc. Pt. (lbs)	L	10-01-04	10-01-04	Top	41	59			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	3231 ft-lbs	11610 ft-lbs	27.8%	1	03-06-10
End Shear	1079 lbs	5785 lbs	18.7%	1	01-03-00
Total Load Deflection	L/903 (0.127")	n/a	26.6%	35	04-09-13
Live Load Deflection	L/999 (0.08")	n/a	n/a	51	04-09-13
Max Defl.	0.127"	n/a	n/a	35	04-09-13
Span / Depth	12.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 1-3/4"	1159 lbs	19.6%	9.9%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 1-3/4"	844 lbs	14.3%	7.2%	Spruce-Pine-Fir

Notes

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

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 06-03-00.

CONFORMS TO OBC 2012

AMENDED 2020


 DWG NO. TAM14816-21
 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®,



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

2ND FLR FRAMING\Flush Beams\B10(i8486) (Flush Beam)

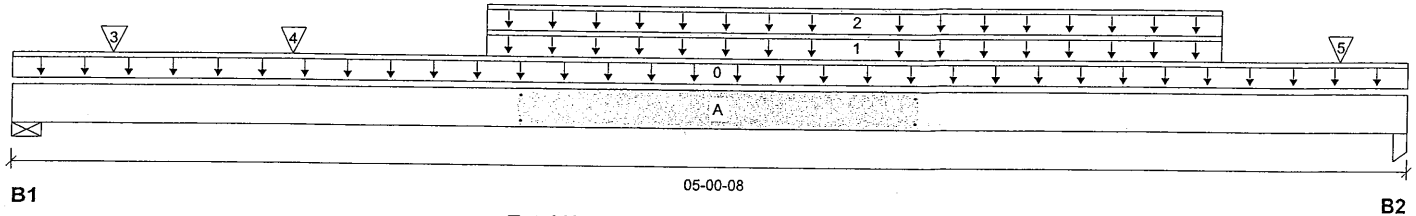
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

July 7, 2021 10:38:19

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

 File name: 38-14 EL A SUNKEN.mmdl
 Description: 2ND FLR FRAMING\Flush Beams\B10(i8486)
 Specifier:
 Designer: EEO
 Company:


Total Horizontal Product Length = 05-00-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/4"	1393 / 0	722 / 0		
B2, 3-1/2"	1459 / 0	756 / 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	05-00-08	Top	1.00	0.65	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-08-04	04-04-04	Top	324	162			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-08-04	04-04-04	Top	316	159			n/a
3	J1(i8473)	Conc. Pt. (lbs)	L	00-04-04	00-04-04	Top	217	108			n/a
4	-	Conc. Pt. (lbs)	L	00-11-14	00-11-14	Top	637	319			n/a
5	J1(i7505)	Conc. Pt. (lbs)	L	04-09-08	04-09-08	Top	291	146			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	3344 ft-lbs	23219 ft-lbs	14.4%	1	02-02-04
End Shear	2422 lbs	11571 lbs	20.9%	1	01-00-04
Total Load Deflection	L/999 (0.018")	n/a	n/a	4	02-05-12
Live Load Deflection	L/999 (0.012")	n/a	n/a	5	02-05-12
Max Defl.	0.018"	n/a	n/a	4	02-05-12
Span / Depth	5.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/4" x 3-1/2"	2992 lbs	50.5%	25.5%	Spruce-Pine-Fir
B2	Column 3-1/2" x 3-1/2"	3133 lbs	31.5%	21.0%	Unspecified

Notes

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

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-05-08.

CONFORMS TO OBC 2012

AMENDED 2020


 UWB NO. TAN 14877-21
 STRUCTURAL
 COMPONENT ONLY

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

File name: 38-14 EL A SUNKEN.mmdl

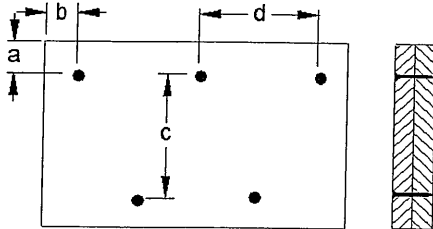
Description: 2ND FLR FRAMING\Flush Beams\B10(i8486)

Specifier:

Designer: EEO

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 5-1/2"

d = 8"

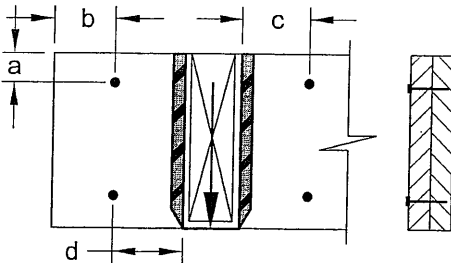
Calculated Side Load = 403.0 lb/ft

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL

Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 4+5+6+7



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL



OWG NO. TAM 14B7721
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®,



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B16(i7581) (Flush Beam)

PASSED

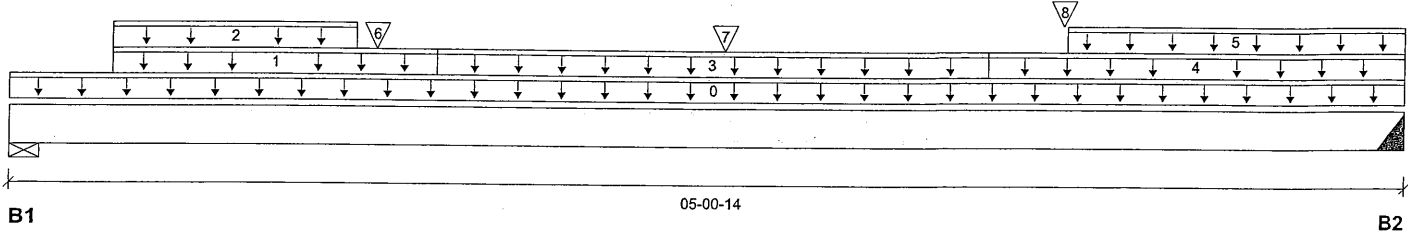
BC CALC® Member Report
Build 7773

Dry | 1 span | No cant.

July 7, 2021 10:38:19

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

File name: 38-14 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B16(i7581)
Specifier:
Designer: EEO
Company:



Total Horizontal Product Length = 05-00-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	286 / 0	408 / 0	141 / 0	
B2, 4"	300 / 0	453 / 0	160 / 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	05-00-14	Top		10			00-00-00
1	E40(i3962)	Unf. Lin. (lb/ft)	L	00-04-06	01-06-06	Top		81			n/a
2	E40(i3962)	Unf. Lin. (lb/ft)	L	00-04-06	01-02-14	Top		38	64		n/a
3	E41(i4005)	Unf. Lin. (lb/ft)	L	01-06-06	03-06-06	Top		41			n/a
4	E30(i96)	Unf. Lin. (lb/ft)	L	03-06-06	05-00-14	Top		81			n/a
5	E30(i96)	Unf. Lin. (lb/ft)	L	03-09-14	05-00-14	Top		38	64		n/a
6	-	Conc. Pt. (lbs)	L	01-03-12	01-03-12	Top	186	163	84		n/a
7	J5(i7631)	Conc. Pt. (lbs)	L	02-06-14	02-06-14	Top	201	101			n/a
8	-	Conc. Pt. (lbs)	L	03-09-11	03-09-11	Top	199	167	81		n/a

Controls Summary

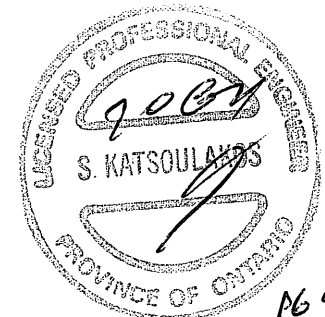
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1302 ft-lbs	23219 ft-lbs	5.6%	1	02-06-14
End Shear	924 lbs	11571 lbs	8.0%	1	03-11-06
Total Load Deflection	L/999 (0.007")	n/a	n/a	35	02-06-14
Live Load Deflection	L/999 (0.004")	n/a	n/a	51	02-06-14
Max Defl.	0.007"	n/a	n/a	35	02-06-14
Span / Depth	5.7				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-3/8" x 3-1/2"	1081 lbs	11.5%	5.8%	Spruce-Pine-Fir
B2	Hanger 4" x 3-1/2"	1177 lbs	n/a	6.9%	HGUS410

Cautions

Header for the hanger HGUS410 is a Double 1-3/4" x 9-1/2" LVL Beam.

Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.



DWG NO. TAM 1487821
STRUCTURAL
COMPONENT ONLY

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B16(i7581) (Flush Beam)

PASSED

BC CALC® Member Report
Build 7773

Dry | 1 span | No cant.

July 7, 2021 10:38:19

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

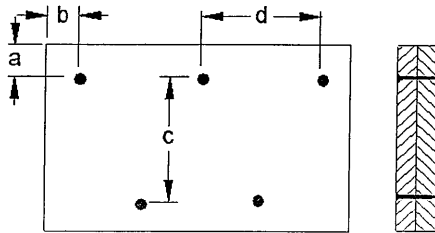
File name: 38-14 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B16(i7581)
Specifier:
Designer: EEO
Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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
Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

CONFORMS TO UBC 2012
AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/2"
b minimum = 3" d = 8"

Calculated Side Load = 213.9 lb/ft

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL



OWG NO. TAM/4878-21
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®,



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

2ND FLR FRAMING\Flush Beams\B22(i8155) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

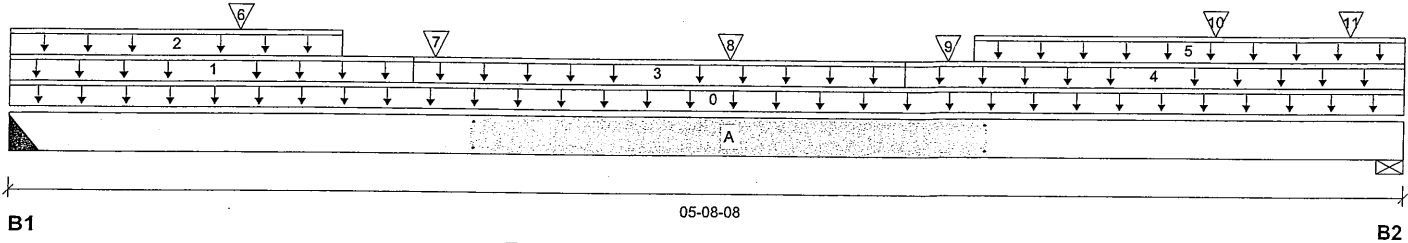
File name: 38-14 EL A SUNKEN.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B22(i8155)

Specifier:

Designer: EEO

Company:



Total Horizontal Product Length = 05-08-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	360 / 0	567 / 0	362 / 0	
B2, 5-1/2"	369 / 0	804 / 0	846 / 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	05-08-08	Top		10			00-00-00
1	E44(i4906)	Unf. Lin. (lb/ft)	L	00-00-00	01-07-08	Top		81			n/a
2	E44(i4906)	Unf. Lin. (lb/ft)	L	00-00-00	01-04-00	Top		56	129		n/a
3	E45(i4907)	Unf. Lin. (lb/ft)	L	01-07-08	03-07-08	Top		41			n/a
4	E28(i94)	Unf. Lin. (lb/ft)	L	03-07-08	05-08-08	Top		81			n/a
5	E28(i94)	Unf. Lin. (lb/ft)	L	03-11-00	05-08-08	Top		56	129		n/a
6	J5(i7598)	Conc. Pt. (lbs)	L	00-11-00	00-11-00	Top	155	78			n/a
7	-	Conc. Pt. (lbs)	L	01-08-09	01-08-09	Top	151	168	170		n/a
8	J5(i7540)	Conc. Pt. (lbs)	L	02-11-00	02-11-00	Top	151	75			n/a
9	-	Conc. Pt. (lbs)	L	03-09-11	03-09-11	Top	151	165	163		n/a
10	J5(i8162)	Conc. Pt. (lbs)	L	04-11-00	04-11-00	Top	116	58			n/a
11	E28(i94)	Conc. Pt. (lbs)	L	05-05-12	05-05-12	Top		213	471		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1860 ft-lbs	23219 ft-lbs	8.0%	1	02-11-00
End Shear	1172 lbs	11571 lbs	10.1%	1	01-01-08
Total Load Deflection	L/999 (0.014")	n/a	n/a	35	02-09-08
Live Load Deflection	L/999 (0.008")	n/a	n/a	51	02-09-08
Max Defl.	0.014"	n/a	n/a	35	02-09-08
Span / Depth	6.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 4" x 3-1/2"	1611 lbs	n/a	9.4%	HGUS410
B2	Wall/Plate 5-1/2" x 3-1/2"	2642 lbs	22.3%	11.2%	Spruce-Pine-Fir

Cautions

Header for the hanger HGUS410 is a Double 1-3/4" x 9-1/2" LVL Beam.

Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.


 DWG NO. TAM14879-21
 STRUCTURAL
 COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B22(i8155) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:38:19

File name: 38-14 EL A SUNKEN.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B22(i8155)

Specifier:

Designer: EEO

Company:

Notes

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

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

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. CONFORMS TO OBC 2012

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

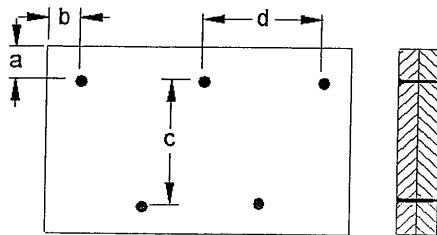
AMENDED 2020

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-12.

Connection Diagram: Full Length of Member



a minimum = 2"

c = 5-1/2"

b minimum = 3"

d = 8"

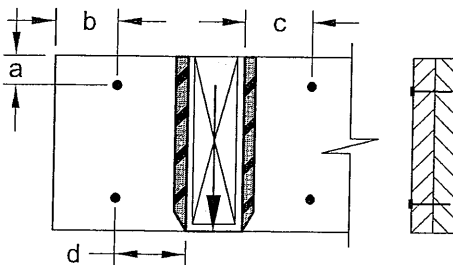
Calculated Side Load = 165.0 lb/ft

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL

Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 14+15+22



a minimum = 2"

b minimum = 4"

c minimum = 4"

d maximum = 12"

Connectors are:
Nails

3 1/2" ARDOX SPIRAL



OWB NO. TAM 14874-21

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™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



Triple 1-3/4" x 16" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B9(i8463) (Flush Beam)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

July 7, 2021 10:38:19

Build 7773

Job name:

File name: 38-14 EL A SUNKEN.mmdl

Address:

Description: 2ND FLR FRAMING\Flush Beams\B9(i8463)

City, Province, Postal Code: RICHMOND HILL

Specifier:

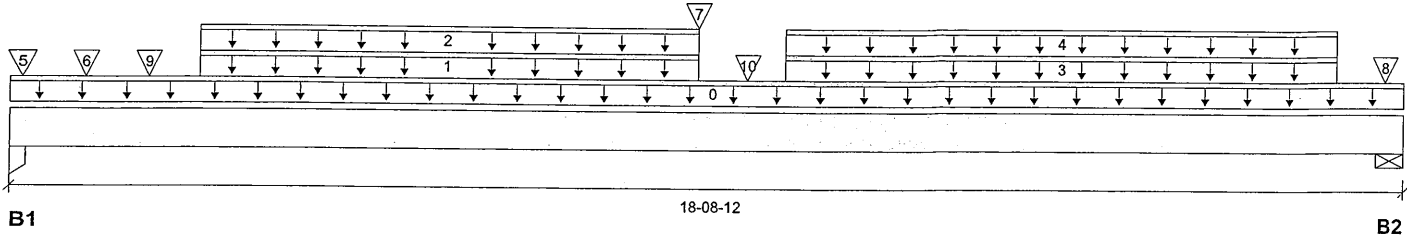
Customer:

Designer: EEO

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 18-08-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	5366 / 0	2907 / 0		
B2, 5-1/2"	5417 / 0	2934 / 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	18-08-12	Top	24				00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	02-05-12	09-01-12	Top	293	146			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	02-05-12	09-01-12	Top	283	141			n/a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	10-03-12	17-09-12	Top	313	156			n/a
4	Smoothed Load	Unf. Lin. (lb/ft)	L	10-03-12	17-09-12	Top	303	151			n/a
5	J2(i8471)	Conc. Pt. (lbs)	L	00-01-12	00-01-12	Top	283	141			n/a
6	-	Conc. Pt. (lbs)	L	00-11-13	00-11-13	Top	632	316			n/a
7	J2(i8491)	Conc. Pt. (lbs)	L	09-01-12	09-01-12	Top	381	191			n/a
8	J2(i8467)	Conc. Pt. (lbs)	L	18-05-12	18-05-12	Top	349	174			n/a
9	J1(i7511)	Conc. Pt. (lbs)	L	01-09-12	01-09-12	Top	341	171			n/a
10	J1(i7512)	Conc. Pt. (lbs)	L	09-09-12	09-09-12	Top	341	171			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	51435 ft-lbs	96965 ft-lbs	53.0%	1	09-01-12
End Shear	10459 lbs	29232 lbs	35.8%	1	16-11-04
Total Load Deflection	L/363 (0.599")	n/a	66.2%	4	09-01-12
Live Load Deflection	L/559 (0.389")	n/a	64.4%	5	09-01-12
Max Defl.	0.599"	n/a	n/a	4	09-01-12
Span / Depth	13.6				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 3-1/2" x 5-1/4"	11683 lbs	78.3%	52.1%	Unspecified
B2	Wall/Plate 5-1/2" x 5-1/4"	11792 lbs	30.6%	33.5%	Spruce-Pine-Fir

Notes

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

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

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-09-08.

CONFORMS TO OBC 2012

AMENDED 2020


 OWC NO. 7AM14800-21
 STRUCTURAL
 COMPONENT ONLY



Triple 1-3/4" x 16" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B9(i8463) (Flush Beam)

PASSED

BC CALC® Member Report
Build 7773

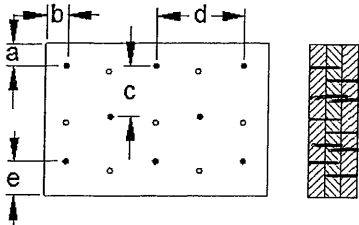
Dry | 1 span | No cant.

July 7, 2021 10:38:19

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

File name: 38-14 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B9(i8463)
Specifier:
Designer: EEO
Company:

Connection Diagram: Full Length of Member



5 ROWS

a minimum = 1"
b minimum = 3"
c = 6"
d = 12"
e minimum = 1"

Calculated Side Load = 828.8 lb/ft
Nailing applies to both sides of the member
Connectors are: 16d *1* Nails

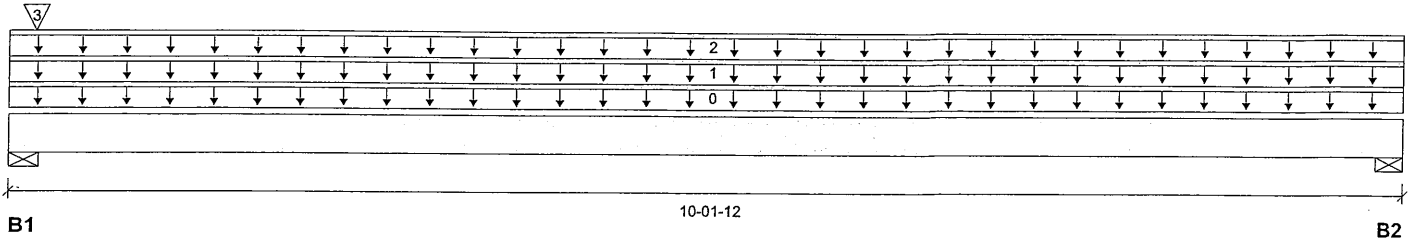
3 1/2" ARDOX SPIRAL



Disclosure

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


Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	150 / 0	434 / 0		
B2, 4-3/8"	146 / 0	402 / 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	10-01-12	Top		5			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	10-01-12	Top		60			n/a
2	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	10-01-12	Top	29	14			n/a
3	9(i6325)	Conc. Pt. (lbs)	L	00-02-03	00-02-03	Top	4	32			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1262 ft-lbs	7546 ft-lbs	16.7%	0	05-00-14
End Shear	434 lbs	3761 lbs	11.5%	0	01-01-14
Total Load Deflection	L/999 (0.081")	n/a	n/a	4	05-00-14
Live Load Deflection	L/999 (0.021")	n/a	n/a	5	05-00-14
Max Defl.	0.081"	n/a	n/a	4	05-00-14
Span / Depth	12.1				

Bearing Supports	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-3/8" x 1-3/4"	607 lbs	19.8%	10.0%	Spruce-Pine-Fir
B2	Wall/Plate 4-3/8" x 1-3/4"	562 lbs	18.4%	9.3%	Spruce-Pine-Fir

Notes

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

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

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.

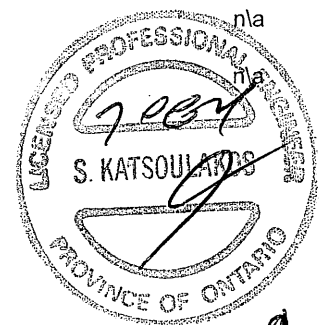
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 09-05-00.

CONFORMS TO OBC 2012

AMENDED 2020


 DWG NO. TAM/4831-21
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®,



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

PASSED

1ST FLR FRAMING\Flush Beams\B19(i8208) (Flush Beam)

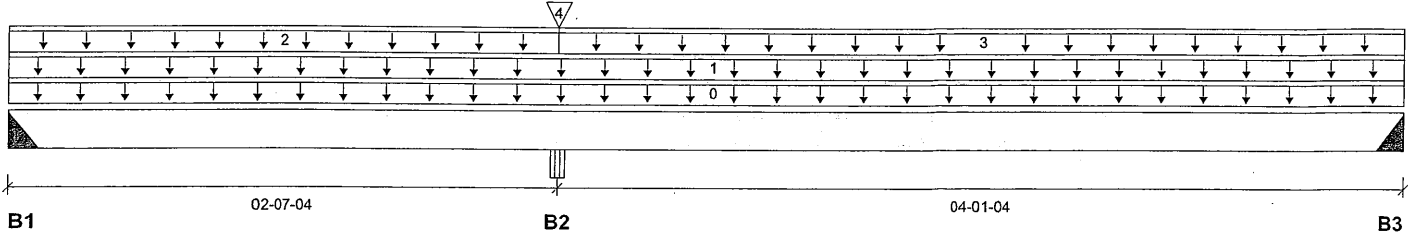
BC CALC® Member Report
Build 7773

Dry | 2 spans | No cant.

July 7, 2021 10:38:19

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

File name: 38-14 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B19(i8208)
Specifier:
Designer: EEO
Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-1/2"	36 / 12	65 / 0		
B2, 5-1/4"	1562 / 0	1182 / 0		
B3, 2-1/2"	49 / 2	145 / 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	06-08-08	Top		10			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	06-08-08	Top		60			n/a
2	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	02-07-04	Top	29	14			n/a
3	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	02-07-04	06-08-08	Top	25	13			n/a
4	PBO8(i5627)	Conc. Pt. (lbs)	L	02-07-04	02-07-04	Top	1450	834			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	147 ft-lbs	15093 ft-lbs	1.0%	0	04-11-14
Neg. Moment	-173 ft-lbs	-14801 ft-lbs	1.2%	0	02-07-04
End Shear	86 lbs	7521 lbs	1.1%	0	05-08-08
Cont. Shear	155 lbs	7521 lbs	2.1%	0	03-07-06
Total Load Deflection	L/999 (0.001")	n/a	n/a	10	04-09-08
Live Load Deflection	L/999 (0")	n/a	n/a	13	04-08-12
Total Neg. Defl.	L/999 (0")	n/a	n/a	10	01-10-06
Max Defl.	0.001"	n/a	n/a	10	04-09-08
Span / Depth	5.0				

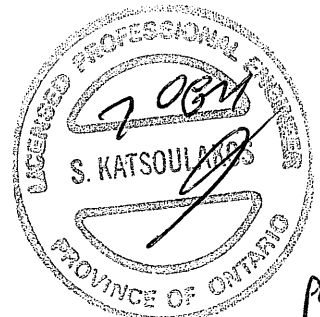
Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2-1/2" x 3-1/2"	91 lbs	n/a	1.3%	HUC410
B2	Beam 5-1/4" x 3-1/2"	3820 lbs	38.9%	17.0%	Unspecified
B3	Hanger 2-1/2" x 3-1/2"	203 lbs	n/a	2.9%	HUC410

Cautions

Header for the hanger HUC410 is a Single 1-3/4" x 9-1/2" LVL Beam.

Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity. *over*



UWB NO. TAM / 488221
STRUCTURAL
COMPONENT ONLY



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

1ST FLR FRAMING\Flush Beams\B19(i8208) (Flush Beam)

PASSED

BC CALC® Member Report
Build 7773

Dry | 2 spans | No cant.

July 7, 2021 10:38:19

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

File name: 38-14 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B19(i8208)
Specifier:
Designer: EEO
Company:

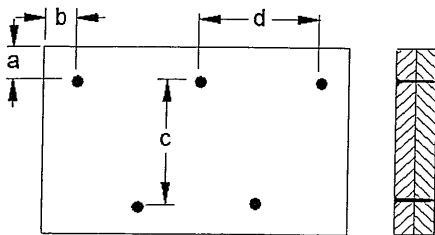
Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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
Calculations assume unbraced length of Top: 00-00-00, Bottom: 03-10-10.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"

c = 5-1/2" "
d = 8" "

Connectors are: 1 Nails

3/4" ARDOX SPIRAL



OWNED BY TAM / 4002-21
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®,



1ST FLR FRAMING\Flush Beams\B18(i8557) (Flush Beam)

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



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

PASSED

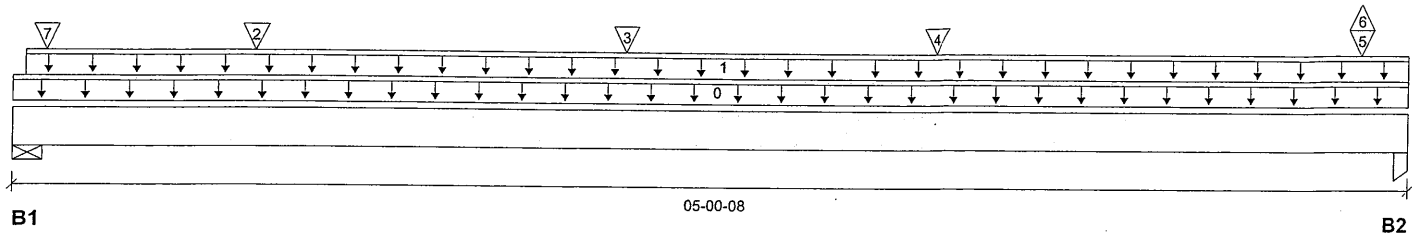
1ST FLR FRAMING\Flush Beams\B20(i8513) (Flush Beam)

 BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

July 7, 2021 10:38:19

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

 File name: 38-14 EL A SUNKEN.mmdl
 Description: 1ST FLR FRAMING\Flush Beams\B20(i8513)
 Specifier:
 Designer: EEO
 Company:


Total Horizontal Product Length = 05-00-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/4"	569 / 0	473 / 0		
B2, 3-1/2"	613 / 2	586 / 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	05-00-08	Top		5			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-08	05-00-08	Top		60			n/a
2	J4(i8720)	Conc. Pt. (lbs)	L	00-10-04	00-10-04	Top	225	112			n/a
3	J4(i8702)	Conc. Pt. (lbs)	L	02-02-04	02-02-04	Top	224	112			n/a
4	-	Conc. Pt. (lbs)	L	03-03-11	03-03-11	Top	318	158			n/a
5	-	Conc. Pt. (lbs)	L	04-10-07	04-10-07	Top	265	247			n/a
6	-	Conc. Pt. (lbs)	L	04-10-07	04-10-07	Top	-2				n/a
7	-	Conc. Pt. (lbs)	L	00-01-06	00-01-06	Top	146	104			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1390 ft-lbs	11610 ft-lbs	12.0%	1	02-02-04
End Shear	915 lbs	5785 lbs	15.8%	1	01-00-04
Total Load Deflection	L/999 (0.015")	n/a	n/a	6	02-05-11
Live Load Deflection	L/999 (0.008")	n/a	n/a	8	02-05-11
Max Defl.	0.015"	n/a	n/a	6	02-05-11
Span / Depth	5.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/4" x 1-3/4"	1445 lbs	48.8%	24.6%	Spruce-Pine-Fir
B2	Column 3-1/2" x 1-3/4"	1651 lbs	33.2%	22.1%	Unspecified

Notes

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

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

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.

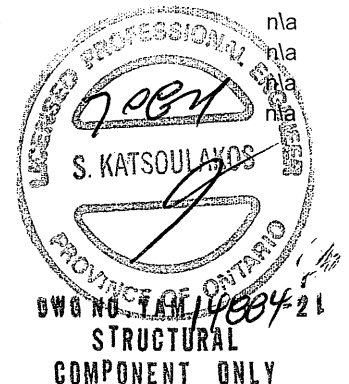
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

CONFORMS TO OBC 2012

AMENDED 2020



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 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

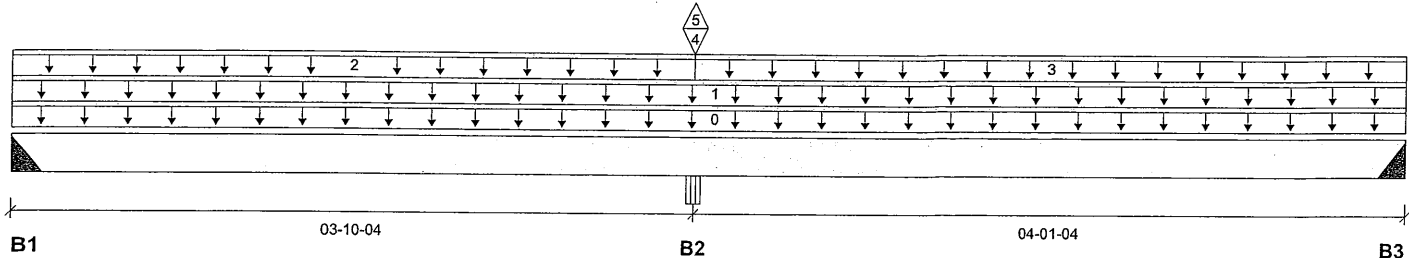
File name: 38-14 EL A SUNKEN WI...T. GROUND FLOOR.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B19A(i8719)

Specifier:

Designer: EEO

Company:



Total Horizontal Product Length = 07-11-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-1/2"	55 / 7	120 / 0		
B2, 5-1/4"	1896 / 1	1371 / 0		
B3, 2-1/2"	49 / 6	125 / 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	07-11-08	Top		10			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	07-11-08	Top		53			n/a
2	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	03-10-04	Top	29	14			n/a
3	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	03-10-04	07-11-08	Top	25	13			n/a
4	PBO8(i5627)	Conc. Pt. (lbs)	L	03-10-04	03-10-04	Top	1766	1003			n/a
5	PBO8(i5627)	Conc. Pt. (lbs)	L	03-10-04	03-10-04	Top	-1				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	120 ft-lbs	15093 ft-lbs	0.8%	0	06-03-10
Neg. Moment	-197 ft-lbs	-14801 ft-lbs	1.3%	0	03-10-04
End Shear	142 lbs	7521 lbs	1.9%	0	06-11-08
Cont. Shear	225 lbs	7521 lbs	3.0%	0	04-10-06
Total Load Deflection	L/999 (0.001")	n/a	n/a	13	06-00-14
Live Load Deflection	L/999 (0")	n/a	n/a	17	05-11-12
Max Defl.	0.001"	n/a	n/a	13	06-00-14
Span / Depth	5.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2-1/2" x 3-1/2"	168 lbs	n/a	2.4%	HUC410
B2	Beam 5-1/4" x 3-1/2"	4558 lbs	46.4%	20.3%	Unspecified
B3	Hanger 2-1/2" x 3-1/2"	175 lbs	n/a	2.5%	HUC410

Cautions

Header for the hanger HUC410 is a Single 1-3/4" x 9-1/2" LVL Beam.

Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.


 OWS NO. TAM 1488521
 STRUCTURAL
 COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
1ST FLR FRAMING\Flush Beams\B19A(i8719) (Flush Beam)

PASSED

BC CALC® Member Report
Build 7773

Dry | 2 spans | No cant.

July 7, 2021 10:43:27

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

File name: 38-14 EL A SUNKEN WL...T. GROUND FLOOR.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B19A(i8719)
Specifier:
Designer: EEO
Company:

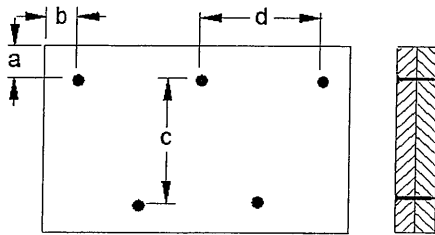
Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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
Calculations assume unbraced length of Top: 00-00-00, Bottom: 03-10-10.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/2"
b minimum = 3" d = 6"

Connectors are: 1 Nails
3 1/2" ARDOX SPIRAL



DWG NO. TAM/400521
**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®,



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

1ST FLR FRAMING\Flush Beams\B20A(i8745) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:43:27

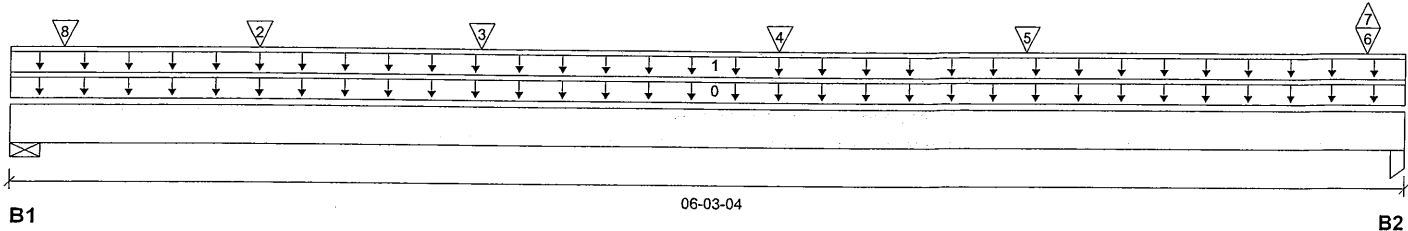
File name: 38-14 EL A SUNKEN WL...T. GROUND FLOOR.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B20A(i8745)

Specifier:

Designer: EEO

Company:



Total Horizontal Product Length = 06-03-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	741 / 0	680 / 0		
B2, 3-1/2"	738 / 6	671 / 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	06-03-04	Top	1.00	0.65	1.00	1.15	00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	06-03-04	Top		60			n/a
2	-	Conc. Pt. (lbs)	L	01-01-01	01-01-01	Top	390	269			n/a
3	J4(i8718)	Conc. Pt. (lbs)	L	02-01-00	02-01-00	Top	225	112			n/a
4	J4(i8721)	Conc. Pt. (lbs)	L	03-05-00	03-05-00	Top	224	112			n/a
5	-	Conc. Pt. (lbs)	L	04-06-07	04-06-07	Top	317	158			n/a
6	-	Conc. Pt. (lbs)	L	06-01-03	06-01-03	Top	267	228			n/a
7	-	Conc. Pt. (lbs)	L	06-01-03	06-01-03	Top	-6				n/a
8	3(i50)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	49	62			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2206 ft-lbs	11610 ft-lbs	19.0%	1	03-05-00
End Shear	1517 lbs	5785 lbs	26.2%	1	01-03-00
Total Load Deflection	L/999 (0.037")	n/a	n/a	6	03-02-00
Live Load Deflection	L/999 (0.02")	n/a	n/a	8	03-02-00
Max Defl.	0.037"	n/a	n/a	6	03-02-00
Span / Depth	7.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 1-3/4"	1963 lbs	33.1%	16.7%	Spruce-Pine-Fir
B2	Column 3-1/2" x 1-3/4"	1946 lbs	39.1%	26.0%	Unspecified

Notes

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

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

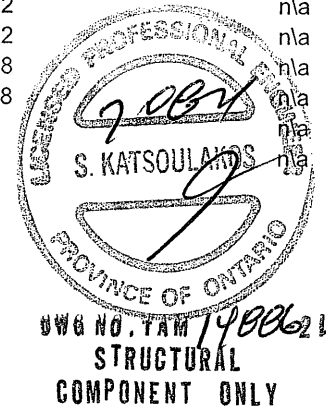
Resistance Factor phi has been applied to all presented results per CSA O86.

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

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

 CONFORMS TO OBC 2012
 AMENDED 2020


Disclosure

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Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
1ST FLR FRAMING\Flush Beams\B2A(i8740) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:43:27

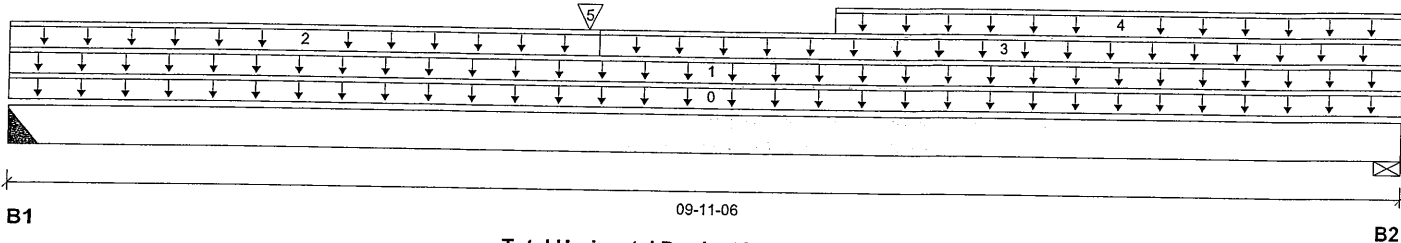
File name: 38-14 EL A SUNKEN WI...T. GROUND FLOOR.mmdl

Description: 1ST FLR FRAMING\Flush Beams\B2A(i8740)

Specifier:

Designer: EEO

Company:



Total Horizontal Product Length = 09-11-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	321 / 0	236 / 0		
B2, 4-3/8"	252 / 0	355 / 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	09-11-06	Top		5			00-00-00
1	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	09-11-06	Top	19	9			n/a
2	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	04-02-00	Top	8	4			n/a
3	FC1 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	04-02-00	09-11-06	Top	3	2			n/a
4	WALL	Unf. Lin. (lb/ft)	L	05-10-00	09-11-06	Top		60			n/a
5	B3(i8710)	Conc. Pt. (lbs)	L	04-01-02	04-01-02	Top	338	178			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2509 ft-lbs	11610 ft-lbs	21.6%	1	04-01-02
End Shear	711 lbs	5785 lbs	12.3%	1	01-00-08
Total Load Deflection	L/999 (0.104")	n/a	n/a	4	04-09-08
Live Load Deflection	L/999 (0.056")	n/a	n/a	5	04-08-04
Max Defl.	0.104"	n/a	n/a	4	04-09-08
Span / Depth	11.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 3" x 1-3/4"	776 lbs	n/a	12.1%	HUS1.81/10
B2	Wall/Plate 4-3/8" x 1-3/4"	821 lbs	17.4%	8.8%	Spruce-Pine-Fir

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 9-1/2" LVL Beam.

Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.



DWG NO. TAM/408721
STRUCTURAL
COMPONENT ONLY



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

1ST FLR FRAMING\Flush Beams\B2A(i8740) (Flush Beam)

PASSED

BC CALC® Member Report
Build 7773

Dry | 1 span | No cant.

July 7, 2021 10:43:27

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

File name: 38-14 EL A SUNKEN WI...T. GROUND FLOOR.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B2A(i8740)
Specifier:
Designer: EEO
Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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
Calculations assume unbraced length of Top: 00-00-00, Bottom: 05-05-00.

CONFORMS TO OBC 2012

AMENDED 2020



OWG NO. TAM14887-21
STRUCTURAL
COMPONENT ONLY

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

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B10A(i8955) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 7, 2021 10:43:27

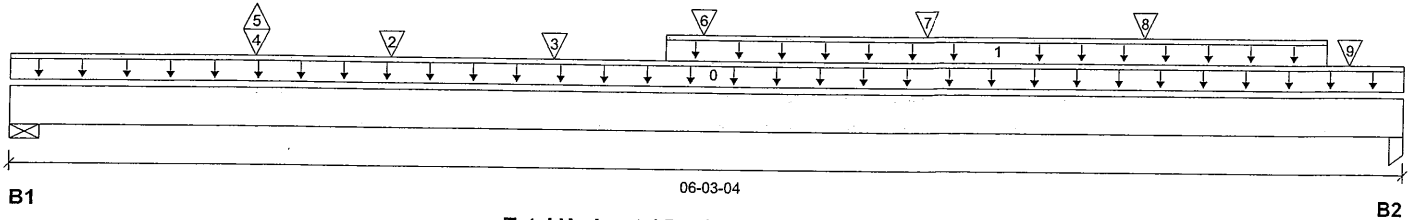
File name: 38-14 EL A SUNKEN WL...T. GROUND FLOOR.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B10A(i8955)

Specifier:

Designer: EEO

Company:



Total Horizontal Product Length = 06-03-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	1698 / 10	918 / 0		
B2, 3-1/2"	1760 / 1	918 / 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	06-03-04	Top	1.00	0.65	1.00	1.15	00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	02-11-00	05-11-00	Top	281	141			n/a
2	-	Conc. Pt. (lbs)	L	01-08-04	01-08-04	Top	487	244			n/a
3	J1(i8939)	Conc. Pt. (lbs)	L	02-05-00	02-05-00	Top	258	129			n/a
4	-	Conc. Pt. (lbs)	L	01-00-15	01-00-15	Top	657	372			n/a
5	-	Conc. Pt. (lbs)	L	01-00-15	01-00-15	Top	-11				n/a
6	J1(i8982)	Conc. Pt. (lbs)	L	03-01-00	03-01-00	Top	340	170			n/a
7	J1(i8993)	Conc. Pt. (lbs)	L	04-01-00	04-01-00	Top	291	146			n/a
8	J1(i8900)	Conc. Pt. (lbs)	L	05-01-00	05-01-00	Top	282	141			n/a
9	J1(i8987)	Conc. Pt. (lbs)	L	06-00-04	06-00-04	Top	291	146			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	5103 ft-lbs	23219 ft-lbs	22.0%	1	03-01-00
End Shear	3353 lbs	11571 lbs	29.0%	1	01-03-00
Total Load Deflection	L/999 (0.041")	n/a	n/a	6	03-02-00
Live Load Deflection	L/999 (0.027")	n/a	n/a	8	03-02-00
Max Defl.	0.041"	n/a	n/a	6	03-02-00
Span / Depth	7.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	3695 lbs	31.2%	15.7%	Spruce-Pine-Fir
B2	Column 3-1/2" x 3-1/2"	3788 lbs	38.1%	25.3%	Unspecified

Notes

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

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

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.

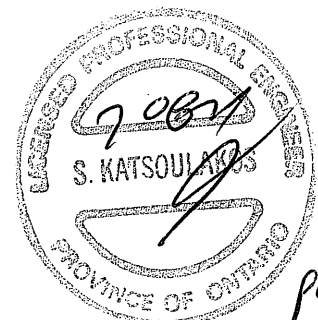
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-05-08.

CONFORMS TO OBC 2012

AMENDED 2020



OWB NO. TAN 1408821
STRUCTURAL
COMPONENT ONLY

P6 1/2



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B10A(i8955) (Flush Beam)

PASSED

BC CALC® Member Report
Build 7773

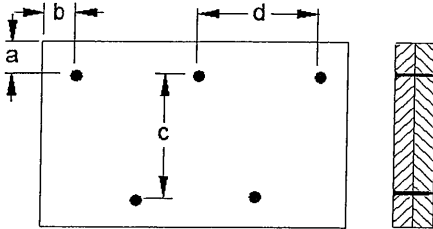
Dry | 1 span | No cant.

July 7, 2021 10:43:27

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

File name: 38-14 EL A SUNKEN WL...T. GROUND FLOOR.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B10A(i8955)
Specifier:
Designer: EEO
Company:

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/2"
b minimum = 3" d = 8"

Calculated Side Load = 763.5 lb/ft
Connectors are: 16d ¹/₄" Nails
3 1/2" ARDOX SPIRAL



OWB NO. TAM 14882-21
**STRUCTURAL
COMPONENT ONLY**

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Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B11A(i8964) (Flush Beam)

PASSED

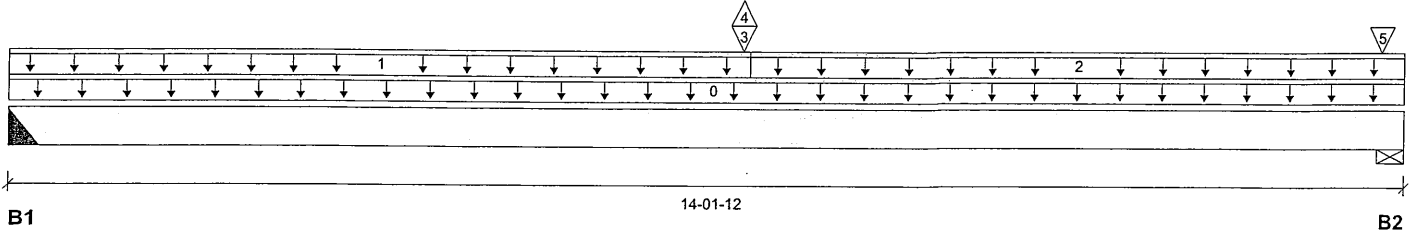
BC CALC® Member Report
 Build 7773

Dry | 1 span | No cant.

July 7, 2021 10:43:27

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

File name: 38-14 EL A SUNKEN WI...T. GROUND FLOOR.mmdl
 Description: 2ND FLR FRAMING\Flush Beams\B11A(i8964)
 Specifier:
 Designer: EEO
 Company:



Total Horizontal Product Length = 14-01-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3"	528 / 4	312 / 0		
B2, 5-1/2"	559 / 5	371 / 0	59 / 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	14-01-12	Top		5			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	07-05-04	Top	17	8			n/a
2	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	07-05-04	14-01-12	Top	10	5			n/a
3	B12(i8876)	Conc. Pt. (lbs)	L	07-04-06	07-04-06	Top	896	478			n/a
4	B12(i8876)	Conc. Pt. (lbs)	L	07-04-06	07-04-06	Top	-9				n/a
5	E25(i98)	Conc. Pt. (lbs)	L	13-11-00	13-11-00	Top		41	59		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	7360 ft-lbs	11610 ft-lbs	63.4%	1	07-04-06
End Shear	1217 lbs	5785 lbs	21.0%	1	12-10-12
Total Load Deflection	L/286 (0.568")	n/a	83.8%	58	07-02-00
Live Load Deflection	L/450 (0.362")	n/a	80.0%	85	07-02-00
Max Defl.	0.568"	n/a	n/a	58	07-02-00
Span / Depth	17.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 3" x 1-3/4"	1182 lbs	n/a	18.5%	HUS1.81/10
B2	Wall/Plate 5-1/2" x 1-3/4"	1361 lbs	23.0%	11.6%	Spruce-Pine-Fir

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 9-1/2" LVL Beam.
 Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.



OWB NO. TAN 1488921
**STRUCTURAL
 COMPONENT ONLY**



Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B11A(i8964) (Flush Beam)

PASSED

BC CALC® Member Report
Build 7773

Dry | 1 span | No cant.

July 7, 2021 10:43:27

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

File name: 38-14 EL A SUNKEN WI...T. GROUND FLOOR.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B11A(i8964)
Specifier:
Designer: EEO
Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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
Calculations assume unbraced length of Top: 00-00-00, Bottom: 07-03-08.

CONFORMS TO OBC 2012

AMENDED 2020



DWG NO. TAM/4009-21
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™, BCI®,
BOISE GLULAM™, BC FloorValue®,
VERSA-LAM®, VERSA-RIM PLUS®,

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 2ND FLR FRAMING\Flush Beams\B15A(i9210) (Flush Beam)

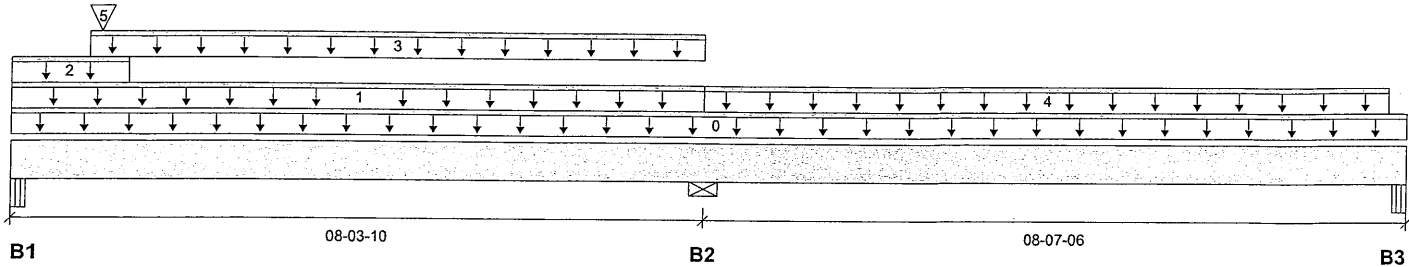
PASSED

 BC CALC® Member Report
 Build 7773

Dry | 2 spans | No cant.

July 5, 2021 11:21:46

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

 File name: 38-14 EL B STD.mmdl
 Description: 2ND FLR FRAMING\Flush Beams\B15A(i9210)
 Specifier:
 Designer: EEO
 Company:


Total Horizontal Product Length = 16'-11'-00"

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4'-1/8"	848 / 25	1252 / 0	694 / 0	
B2, 5'-1/2"	585 / 0	512 / 0	110 / 0	
B3, 5'-1/4"	175 / 40	82 / 0	0 / 18	

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	16-11-00	Top		10			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	08-03-10	Top	20	10			n/a
2	E51(i8554)	Unf. Lin. (lb/ft)	L	00-00-00	01-04-06	Top		96	26		n/a
3	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-10-14	08-03-10	Top	26	13			n/a
4	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	08-03-10	16-08-06	Top	47	23			n/a
5	B30(i9198)	Conc. Pt. (lbs)	L	01-00-10	01-00-10	Top	782	1171	751		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2611 ft-lbs	23219 ft-lbs	11.2%	2	01-00-10
Neg. Moment	-1576 ft-lbs	-18777 ft-lbs	8.4%	1	08-03-10
End Shear	2941 lbs	11571 lbs	25.4%	2	01-01-10
Cont. Shear	864 lbs	11571 lbs	7.5%	1	07-03-06
Total Load Deflection	L/999 (0.032")	n/a	n/a	82	03-07-00
Live Load Deflection	L/999 (0.019")	n/a	n/a	120	03-07-00
Total Neg. Defl.	L/999 (-0.008")	n/a	n/a	82	11-02-09
Max Defl.	0.032"	n/a	n/a	82	03-07-00
Span / Depth	10.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 4'-1/8" x 3'-1/2"	3530 lbs	45.8%	20.0%	Unspecified
B2	Wall/Plate 5'-1/2" x 3'-1/2"	1627 lbs	13.7%	6.9%	Spruce-Pine-Fir
B3	Beam 5'-1/4" x 3'-1/2"	365 lbs	3.7%	1.6%	Unspecified

Cautions

Concentrated side load(s) 9 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.


 OWN NO. TAM 14890-21
 STRUCTURAL
 COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B15A(i9210) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 2 spans | No cant.

July 5, 2021 11:21:46

File name: 38-14 EL B STD.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B15A(i9210)

Specifier:

Designer: EEO

Company:

Notes

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

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

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.

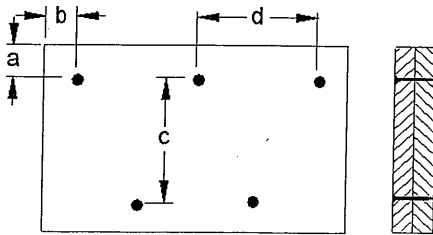
Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 07-11-06.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 5-1/2"

d = 8"

Connectors are:

1 Nails
3 1/2" ARDOX SPIKAL



UWG NO. TAM 14090-21
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®,



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

2ND FLR FRAMING\Flush Beams\B30(i9198) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 5, 2021 11:21:46

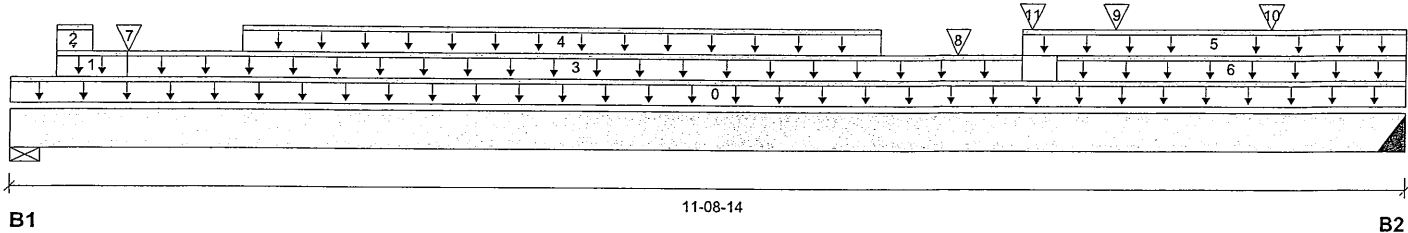
File name: 38-14 EL B STD.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B30(i9198)

Specifier:

Designer: EEO

Company:



Total Horizontal Product Length = 11-08-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	787 / 0	1099 / 0	713 / 0	
B2, 4"	804 / 0	1191 / 0	754 / 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	11-08-14	Top		10			00-00-00
1	E40(i3962)	Unf. Lin. (lb/ft)	L	00-04-06	00-11-06	Top		81			n/a
2	E40(i3962)	Unf. Lin. (lb/ft)	L	00-04-06	00-07-14	Top			129		n/a
3	E41(i4005)	Unf. Lin. (lb/ft)	L	00-11-06	08-05-06	Top		41			n/a
4	Smoothed Load	Unf. Lin. (lb/ft)	L	01-10-14	07-02-14	Top	151	76			n/a
5	E30(i96)	Unf. Lin. (lb/ft)	L	08-05-06	11-08-14	Top		81			n/a
6	E30(i96)	Unf. Lin. (lb/ft)	L	08-08-14	11-08-14	Top		56	129		n/a
7	-	Conc. Pt. (lbs)	L	00-11-08	00-11-08	Top	186	380	522		n/a
8	J6(i9202)	Conc. Pt. (lbs)	L	07-10-14	07-10-14	Top	201	101			n/a
9	J6(i9194)	Conc. Pt. (lbs)	L	09-02-14	09-02-14	Top	201	101			n/a
10	J6(i9207)	Conc. Pt. (lbs)	L	10-06-14	10-06-14	Top	199	100			n/a
11	E30(i96)	Conc. Pt. (lbs)	L	08-06-06	08-06-06	Top		287	520		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	8160 ft-lbs	23219 ft-lbs	35.1%	1	06-06-14
End Shear	3098 lbs	11571 lbs	26.8%	1	10-07-06
Total Load Deflection	L/467 (0.287")	n/a	51.4%	35	06-00-14
Live Load Deflection	L/820 (0.163")	n/a	43.9%	51	06-00-14
Max Defl.	0.287"	n/a	n/a	35	06-00-14
Span / Depth	14.1				

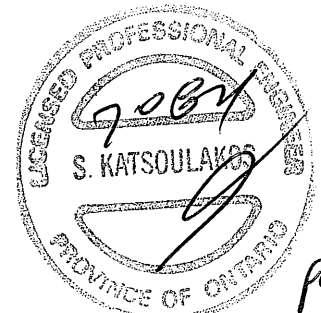
Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 4-3/8" x 3-1/2"	3267 lbs	34.7%	17.5%	Spruce-Pine-Fir
B2	Hanger 4" x 3-1/2"	3449 lbs	n/a	20.2%	HGUS410

Cautions

Header for the hanger HGUS410 is a Double 1-3/4" x 9-1/2" LVL Beam.

Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.


 DWG NO. TAM/19891-21
 STRUCTURAL
 COMPONENT ONLY

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B30(i9198) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 5, 2021 11:21:46

File name: 38-14 EL B STD.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B30(i9198)

Specifier:

Designer: EEO

Company:

Notes

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

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

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.

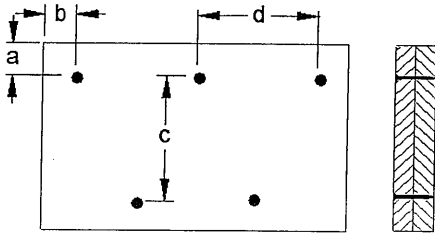
Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

CONFORMS TO OBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 5-1/2"

d = 8"

Calculated Side Load = 427.8 lb/ft

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL



Disclosure

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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 9-1/2" VERSA-LAM® 2.0 3100 SP

2ND FLR FRAMING\Flush Beams\B15B(i9690) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 2 spans | No cant.

July 5, 2021 11:22:24

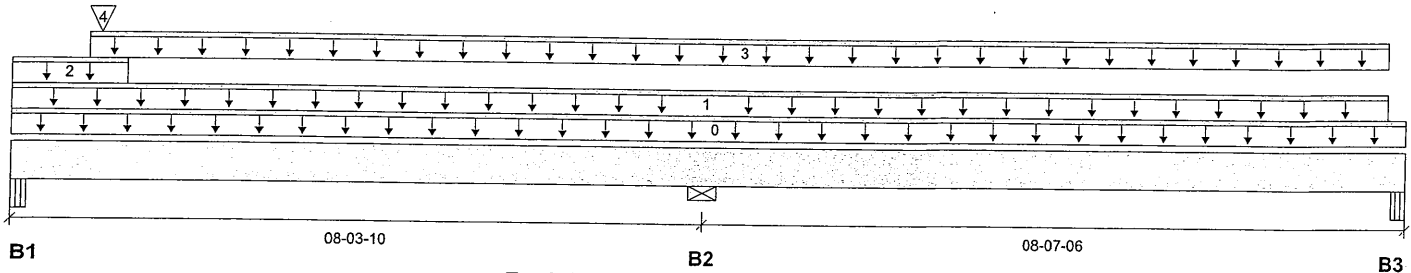
File name: 38-14 EL C STD.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B15B(i9690)

Specifier:

Designer: EEO

Company:



Total Horizontal Product Length = 16-11-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-1/8"	507 / 14	809 / 0	437 / 0	
B2, 5-1/2"	338 / 0	344 / 0	68 / 0	
B3, 5-1/4"	100 / 24	60 / 0	0 / 11	

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	16-11-00	Top		10			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	16-08-06	Top	7	4			n/a
2	E51(i8554)	Unf. Lin. (lb/ft)	L	00-00-00	01-04-06	Top		96	26		n/a
3	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-10-14	16-08-06	Top	20	10			n/a
4	B40(i9711)	Conc. Pt. (lbs)	L	01-00-10	01-00-10	Top	475	702	459		n/a

Controls Summary

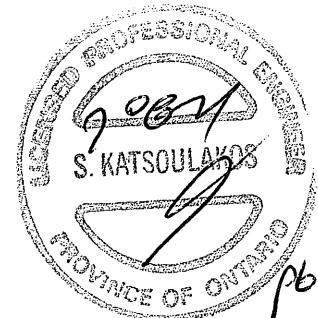
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1608 ft-lbs	23219 ft-lbs	6.9%	2	01-00-10
Neg. Moment	-973 ft-lbs	-18777 ft-lbs	5.2%	1	08-03-10
End Shear	1793 lbs	11571 lbs	15.5%	2	01-01-10
Cont. Shear	534 lbs	11571 lbs	4.6%	1	07-03-06
Total Load Deflection	L/999 (0.02")	n/a	n/a	82	03-05-14
Live Load Deflection	L/999 (0.011")	n/a	n/a	120	03-07-00
Total Neg. Defl.	L/999 (-0.005")	n/a	n/a	82	11-01-06
Max Defl.	0.02"	n/a	n/a	82	03-05-14
Span / Depth	10.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Beam 4-1/8" x 3-1/2"	2209 lbs	28.7%	12.5%	Unspecified
B2	Wall/Plate 5-1/2" x 3-1/2"	1005 lbs	8.5%	4.3%	Spruce-Pine-Fir
B3	Beam 5-1/4" x 3-1/2"	225 lbs	2.3%	1.0%	Unspecified

Cautions

Concentrated side load(s) 9 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.


 OWO NO. TAM14892-21
 STRUCTURAL
 COMPONENT ONLY



Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B15B(i9690) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 2 spans | No cant.

July 5, 2021 11:22:24

File name: 38-14 EL C STD.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B15B(i9690)

Specifier:

Designer: EEO

Company:

Notes

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

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

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.

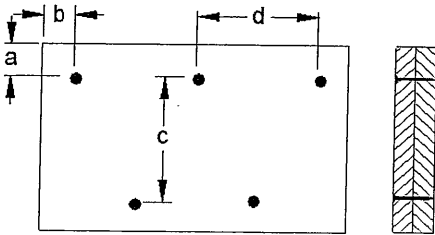
Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 07-11-06.

CONFORMS TO CBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 5-1/2"

d = 6"

Connectors are: 1 Nails

3 1/2" ARDOX SPIRAL



ENG NO. TAM 14892-21
**STRUCTURAL
COMPONENT ONLY**

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

2ND FLR FRAMING\Flush Beams\B40(i9711) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 5, 2021 11:22:24

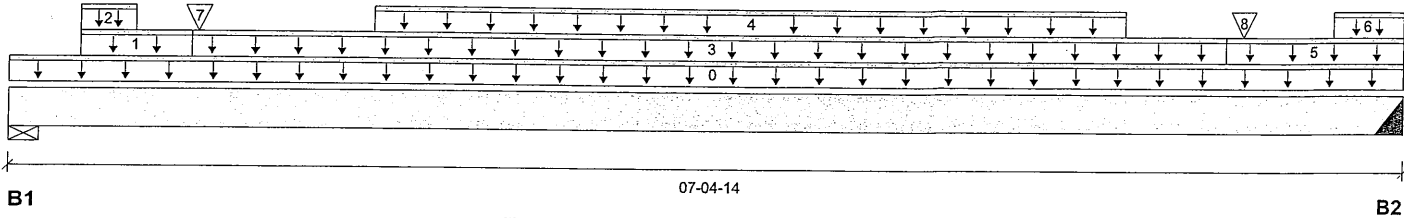
File name: 38-14 EL C STD.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B40(i9711)

Specifier:

Designer: EEO

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	460 / 0	661 / 0	433 / 0	
B2, 4"	503 / 0	733 / 0	475 / 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	07-04-14	Top		10			00-00-00
1	E40(i3962)	Unf. Lin. (lb/ft)	L	00-04-06	00-11-06	Top		81			n/a
2	E40(i3962)	Unf. Lin. (lb/ft)	L	00-04-06	00-07-14	Top		56	129		n/a
3	E41(i4005)	Unf. Lin. (lb/ft)	L	00-11-06	06-05-06	Top		41			n/a
4	Smoothed Load	Unf. Lin. (lb/ft)	L	01-10-14	05-10-14	Top	151	76			n/a
5	E30(i96)	Unf. Lin. (lb/ft)	L	06-05-06	07-04-14	Top		81			n/a
6	E30(i96)	Unf. Lin. (lb/ft)	L	07-00-06	07-04-14	Top		56	129		n/a
7	-	Conc. Pt. (lbs)	L	00-11-13	00-11-13	Top	186	308	390		n/a
8	-	Conc. Pt. (lbs)	L	06-06-08	06-06-08	Top	174	325	432		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2692 ft-lbs	23219 ft-lbs	11.6%	1	03-10-14
End Shear	1692 lbs	11571 lbs	14.6%	1	01-01-14
Total Load Deflection	L/999 (0.035")	n/a	n/a	35	03-08-14
Live Load Deflection	L/999 (0.02")	n/a	n/a	51	03-08-14
Max Defl.	0.035"	n/a	n/a	35	03-08-14
Span / Depth	8.6				

				Demand/ Resistance Support	Demand/ Resistance Member	Material
Bearing Supports	Dim. (LxW)	Demand				
B1	Wall/Plate	4-3/8" x 3-1/2"	1949 lbs	20.7%	10.4%	Spruce-Pine-Fir
B2	Hanger	4" x 3-1/2"	2147 lbs	n/a	12.6%	HGUS410

Cautions

Header for the hanger HGUS410 is a Double 1-3/4" x 9-1/2" LVL Beam.

Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.


 DWG NO. TAM/4093-21
 STRUCTURAL
 COMPONENT ONLY

Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP
2ND FLR FRAMING\Flush Beams\B40(i9711) (Flush Beam)

PASSED

BC CALC® Member Report

Build 7773

Job name:

Address:

City, Province, Postal Code: RICHMOND HILL

Customer:

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

July 5, 2021 11:22:24

File name: 38-14 EL C STD.mmdl

Description: 2ND FLR FRAMING\Flush Beams\B40(i9711)

Specifier:

Designer: EEO

Company:

Notes

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

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

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.

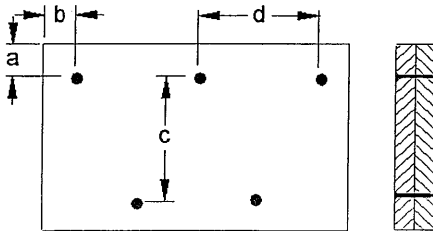
Importance Factor : Normal Part code : Part 9

Calculations assume unbraced length of Top: 00-00-00, Bottom: 01-01-08.

CONFORMS TO CBC 2012

AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"

b minimum = 3"

c = 5-1/2"

d = 8"

Calculated Side Load = 427.8 lb/ft

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL

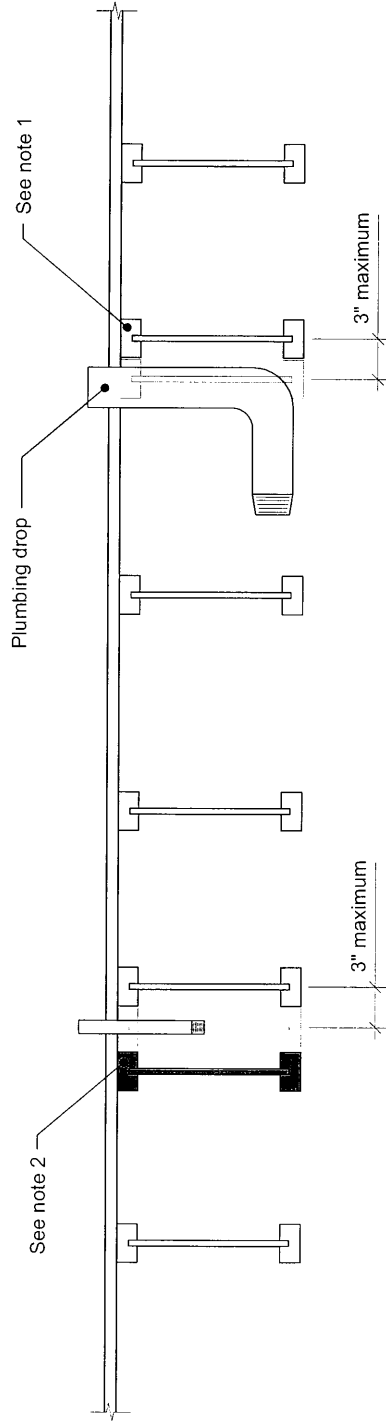


DWG NO. TAM 14B9321
**STRUCTURAL
COMPONENT ONLY**

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™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

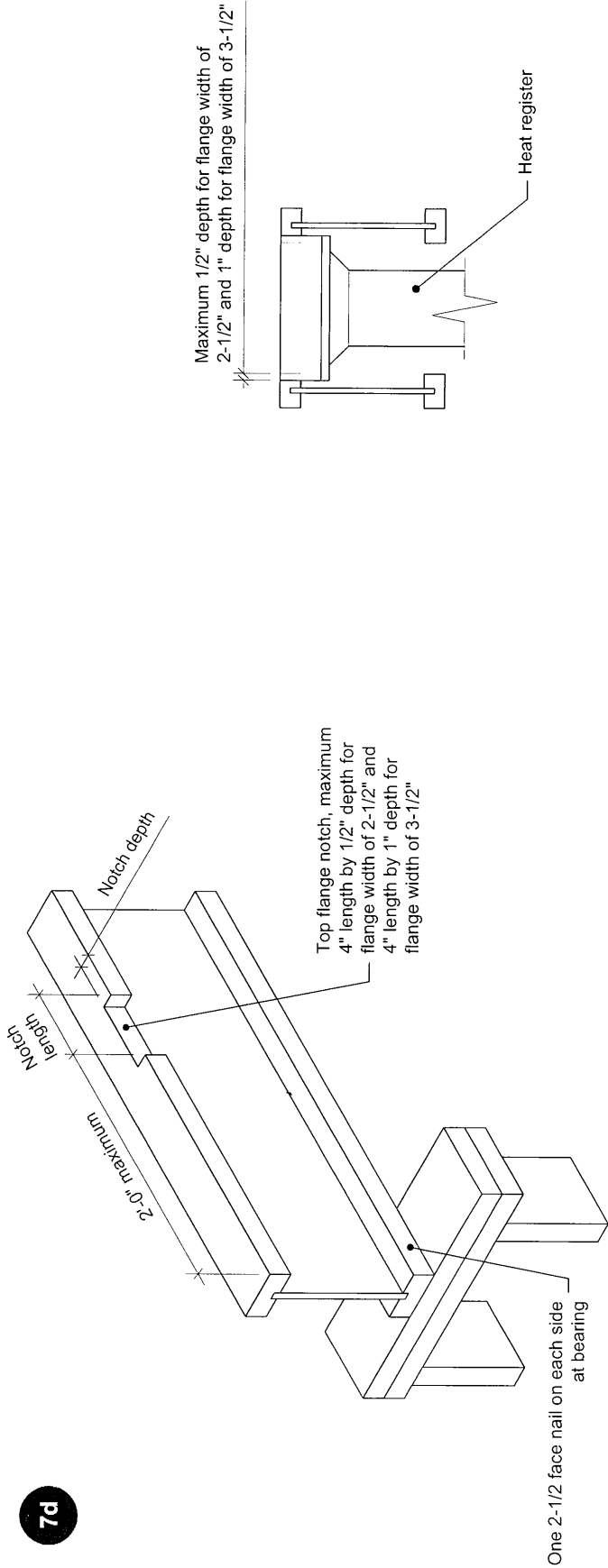


Notes:

- 1. To prevent interference with plumbing, a joist may be shifted up to 3 inches if the edge of the floor panel is supported and the span rating is not exceeded.
- 2. In all other cases, an additional joist is required.

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.


NORDIC STRUCTURES nordic.ca	NS-DC3  <div>DETAILS</div> NORDIC JOIST	TITLE		DRAWING	
		Allowance for Piping		7c	
		CATEGORY	SCALE	DATE	PAGE
		Openings for Vertical Elements		-	2020-10-01



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 length by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch length 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.

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.

NORDIC STRUCTURES nordic.ca	NS-DC3  DETAILS NORDIC JOIST	TITLE		DRAWING	
		Notch in I-joist for Heat Register		7d	
		CATEGORY	SCALE	DATE	PAGE
		Openings for Vertical Elements		-	2020-10-01

Maximum Floor Spans – S2.1

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 15 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	5/8 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-1"	14'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-
	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	-
	NI-60	16'-4"	15'-4"	14'-10"	-	16'-9"	15'-9"	15'-3"	-
	NI-80	17'-3"	16'-3"	15'-8"	-	17'-8"	16'-7"	16'-0"	-
11-7/8"	NI-20	17'-0"	16'-0"	15'-6"	-	17'-6"	16'-7"	16'-0"	-
	NI-40x	18'-2"	17'-1"	16'-6"	-	18'-9"	17'-6"	16'-11"	-
	NI-60	18'-5"	17'-3"	16'-8"	-	19'-0"	17'-8"	17'-1"	-
	NI-80	19'-9"	18'-3"	17'-7"	-	20'-4"	18'-10"	18'-0"	-
	NI-90	20'-2"	18'-8"	17'-10"	-	20'-9"	19'-2"	18'-4"	-
14"	NI-40x	20'-1"	18'-8"	17'-10"	-	20'-10"	19'-4"	18'-6"	-
	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	-
	NI-80	21'-11"	20'-3"	19'-4"	-	22'-7"	20'-11"	20'-0"	-
	NI-90	22'-5"	20'-8"	19'-9"	-	23'-0"	21'-4"	20'-4"	-
16"	NI-60	22'-4"	20'-8"	19'-9"	-	23'-1"	21'-5"	20'-6"	-
	NI-80	23'-11"	22'-1"	21'-1"	-	24'-8"	22'-10"	21'-9"	-
	NI-90	24'-5"	22'-6"	21'-6"	-	25'-1"	23'-2"	22'-2"	-

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-8"	15'-3"	14'-5"	-	16'-8"	15'-3"	14'-5"	-
	NI-40x	17'-11"	17'-0"	16'-1"	-	18'-5"	17'-1"	16'-1"	-
	NI-60	18'-2"	17'-1"	16'-4"	-	18'-8"	17'-4"	16'-4"	-
	NI-80	19'-5"	18'-0"	17'-5"	-	19'-10"	18'-5"	17'-8"	-
11-7/8"	NI-20	19'-7"	18'-2"	17'-3"	-	19'-11"	18'-3"	17'-3"	-
	NI-40x	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-2"	-
	NI-60	21'-4"	19'-9"	18'-11"	-	21'-11"	20'-5"	19'-6"	-
	NI-80	22'-9"	21'-1"	20'-2"	-	23'-3"	21'-8"	20'-8"	-
	NI-90	23'-3"	21'-6"	20'-6"	-	23'-9"	22'-0"	21'-0"	-
14"	NI-40x	23'-8"	21'-11"	20'-11"	-	24'-4"	22'-8"	21'-8"	-
	NI-60	24'-0"	22'-3"	21'-3"	-	24'-8"	22'-11"	21'-11"	-
	NI-80	25'-7"	23'-9"	22'-7"	-	26'-2"	24'-4"	23'-3"	-
	NI-90	26'-1"	24'-2"	23'-0"	-	26'-8"	24'-9"	23'-7"	-
16"	NI-60	26'-5"	24'-6"	23'-5"	-	27'-2"	25'-3"	24'-2"	-
	NI-80	28'-2"	26'-1"	24'-10"	-	28'-10"	26'-9"	25'-6"	-
	NI-90	28'-8"	26'-6"	25'-3"	-	29'-3"	27'-2"	25'-11"	-

Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

Maximum Floor Spans – S4.1

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 15 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	3/4 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

Joist depth	Joist series	Bare				1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	15'-2"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
11-7/8"	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-2"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
14"	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
16"	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10"
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. 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-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'-8"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
	NI-80	23'-8"	22'-0"	20'-11"	19'-10"	24'-1"	22'-6"	21'-6"	20'-0"
	NI-90	24'-1"	22'-5"	21'-4"	20'-2"	24'-7"	22'-11"	21'-10"	20'-7"
14"	NI-40x	24'-5"	22'-9"	21'-9"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"
	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"
16"	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	24'-9"	23'-1"
	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"

Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

Maximum Floor Spans – S6.1

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 15 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	5/8 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-
	NI-40x	15'-11"	15'-0"	14'-6"	-	16'-4"	15'-5"	14'-11"	-
	NI-60	16'-1"	15'-2"	14'-8"	-	16'-6"	15'-7"	15'-1"	-
	NI-80	17'-1"	16'-1"	15'-6"	-	17'-5"	16'-5"	15'-10"	-
11-7/8"	NI-20	16'-9"	15'-10"	15'-4"	-	17'-4"	16'-4"	15'-10"	-
	NI-40x	17'-10"	16'-10"	16'-3"	-	18'-6"	17'-4"	16'-9"	-
	NI-60	18'-1"	17'-0"	16'-5"	-	18'-9"	17'-6"	16'-11"	-
	NI-80	19'-6"	18'-0"	17'-4"	-	20'-1"	18'-7"	17'-9"	-
	NI-90	19'-11"	18'-4"	17'-8"	-	20'-5"	18'-11"	18'-1"	-
14"	NI-40x	19'-10"	18'-4"	17'-8"	-	20'-6"	19'-1"	18'-3"	-
	NI-60	20'-2"	18'-8"	17'-11"	-	20'-10"	19'-4"	18'-6"	-
	NI-80	21'-8"	20'-0"	19'-1"	-	22'-4"	20'-8"	19'-9"	-
	NI-90	22'-1"	20'-5"	19'-6"	-	22'-9"	21'-0"	20'-1"	-
16"	NI-60	22'-0"	20'-4"	19'-6"	-	22'-9"	21'-1"	20'-2"	-
	NI-80	23'-7"	21'-10"	20'-10"	-	24'-4"	22'-6"	21'-6"	-
	NI-90	24'-1"	22'-2"	21'-2"	-	24'-9"	22'-11"	21'-10"	-

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"	14'-3"	-
	NI-40x	17'-9"	16'-10"	15'-11"	-	18'-2"	16'-11"	15'-11"	-
	NI-60	17'-11"	16'-11"	16'-2"	-	18'-5"	17'-2"	16'-2"	-
	NI-80	19'-3"	17'-10"	17'-3"	-	19'-8"	18'-3"	17'-7"	-
11-7/8"	NI-20	19'-4"	18'-0"	17'-1"	-	19'-9"	18'-1"	17'-1"	-
	NI-40x	20'-10"	19'-4"	18'-6"	-	21'-5"	19'-11"	19'-0"	-
	NI-60	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-3"	-
	NI-80	22'-6"	20'-10"	19'-11"	-	23'-1"	21'-5"	20'-5"	-
	NI-90	23'-0"	21'-3"	20'-4"	-	23'-6"	21'-10"	20'-10"	-
14"	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	21'-5"	-
	NI-60	23'-9"	22'-0"	21'-0"	-	24'-5"	22'-8"	21'-8"	-
	NI-80	25'-4"	23'-6"	22'-5"	-	25'-11"	24'-1"	23'-0"	-
	NI-90	25'-10"	23'-11"	22'-9"	-	26'-5"	24'-6"	23'-4"	-
16"	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-
	NI-80	27'-11"	25'-10"	24'-7"	-	28'-7"	26'-6"	25'-3"	-
	NI-90	28'-5"	26'-3"	25'-0"	-	29'-0"	26'-11"	25'-8"	-

Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

Maximum Floor Spans – S7.1

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 15 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	3/4 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling 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	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	15'-1"
	NI-60	17'-1"	16'-1"	15'-6"	14'-10"	17'-6"	16'-6"	15'-11"	15'-3"
	NI-80	18'-1"	17'-0"	16'-4"	15'-8"	18'-7"	17'-4"	16'-8"	16'-0"
11-7/8"	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-3"	17'-10"	17'-2"	16'-6"	19'-10"	18'-5"	17'-8"	16'-11"
	NI-60	19'-6"	18'-1"	17'-4"	16'-8"	20'-1"	18'-8"	17'-10"	17'-1"
	NI-80	20'-11"	19'-4"	18'-5"	17'-7"	21'-5"	19'-10"	18'-11"	17'-11"
	NI-90	21'-4"	19'-9"	18'-9"	17'-10"	21'-10"	20'-3"	19'-3"	18'-3"
14"	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"
	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"
	NI-80	23'-3"	21'-6"	20'-5"	19'-4"	23'-10"	22'-1"	21'-0"	19'-11"
	NI-90	23'-9"	21'-11"	20'-10"	19'-8"	24'-3"	22'-6"	21'-5"	20'-3"
16"	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"
	NI-80	25'-4"	23'-5"	22'-3"	21'-1"	26'-0"	24'-1"	22'-11"	21'-8"
	NI-90	25'-10"	23'-10"	22'-8"	21'-5"	26'-5"	24'-6"	23'-4"	22'-0"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling 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'-7"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
	NI-60	18'-10"	17'-6"	16'-6"	15'-5"	19'-1"	17'-6"	16'-6"	15'-5"
	NI-80	20'-2"	18'-9"	17'-11"	16'-10"	20'-7"	19'-2"	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'-9"	20'-3"	19'-4"	17'-8"	22'-4"	20'-5"	19'-4"	17'-8"
	NI-60	22'-0"	20'-6"	19'-7"	18'-4"	22'-7"	20'-10"	19'-8"	18'-4"
	NI-80	23'-6"	21'-10"	20'-10"	19'-9"	24'-0"	22'-5"	21'-4"	20'-0"
	NI-90	24'-0"	22'-4"	21'-3"	20'-1"	24'-6"	22'-10"	21'-9"	20'-7"
14"	NI-40x	24'-4"	22'-8"	21'-8"	19'-5"	25'-0"	23'-2"	21'-9"	19'-5"
	NI-60	24'-9"	23'-0"	22'-0"	20'-9"	25'-5"	23'-8"	22'-4"	20'-10"
	NI-80	26'-5"	24'-6"	23'-4"	22'-1"	27'-0"	25'-2"	24'-0"	22'-8"
	NI-90	26'-11"	25'-0"	23'-10"	22'-6"	27'-5"	25'-7"	24'-5"	23'-1"
16"	NI-60	27'-2"	25'-4"	24'-2"	22'-10"	27'-11"	26'-1"	24'-9"	23'-1"
	NI-80	29'-0"	26'-11"	25'-8"	24'-3"	29'-7"	27'-7"	26'-4"	24'-11"
	NI-90	29'-6"	27'-5"	26'-1"	24'-8"	30'-1"	28'-1"	26'-9"	25'-4"

Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

Maximum Floor Spans – M2.1

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	5/8 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-1"	14'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-
	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	-
	NI-60	16'-4"	15'-4"	14'-10"	-	16'-9"	15'-9"	15'-3"	-
	NI-80	17'-3"	16'-3"	15'-8"	-	17'-8"	16'-7"	16'-0"	-
11-7/8"	NI-20	17'-0"	16'-0"	15'-6"	-	17'-6"	16'-7"	16'-0"	-
	NI-40x	18'-2"	17'-1"	16'-6"	-	18'-9"	17'-6"	16'-11"	-
	NI-60	18'-5"	17'-3"	16'-8"	-	19'-0"	17'-8"	17'-1"	-
	NI-80	19'-9"	18'-3"	17'-7"	-	20'-4"	18'-10"	18'-0"	-
	NI-90	20'-2"	18'-8"	17'-10"	-	20'-9"	19'-2"	18'-4"	-
14"	NI-40x	20'-1"	18'-8"	17'-10"	-	20'-10"	19'-4"	18'-6"	-
	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	-
	NI-80	21'-11"	20'-3"	19'-4"	-	22'-7"	20'-11"	20'-0"	-
	NI-90	22'-5"	20'-8"	19'-9"	-	23'-0"	21'-4"	20'-4"	-
16"	NI-60	22'-4"	20'-8"	19'-9"	-	23'-1"	21'-5"	20'-6"	-
	NI-80	23'-11"	22'-1"	21'-1"	-	24'-8"	22'-10"	21'-9"	-
	NI-90	24'-5"	22'-6"	21'-6"	-	25'-1"	23'-2"	22'-2"	-

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-8"	15'-3"	14'-5"	-	16'-8"	15'-3"	14'-5"	-
	NI-40x	17'-11"	17'-0"	16'-1"	-	18'-5"	17'-1"	16'-1"	-
	NI-60	18'-2"	17'-1"	16'-4"	-	18'-8"	17'-4"	16'-4"	-
	NI-80	19'-5"	18'-0"	17'-5"	-	19'-10"	18'-5"	17'-8"	-
11-7/8"	NI-20	19'-7"	18'-2"	17'-3"	-	19'-11"	18'-3"	17'-3"	-
	NI-40x	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-0"	-
	NI-60	21'-4"	19'-9"	18'-11"	-	21'-11"	20'-5"	19'-6"	-
	NI-80	22'-9"	21'-1"	20'-2"	-	23'-3"	21'-8"	20'-8"	-
	NI-90	23'-3"	21'-6"	20'-6"	-	23'-9"	22'-0"	21'-0"	-
14"	NI-40x	23'-8"	21'-11"	20'-11"	-	24'-4"	22'-8"	20'-11"	-
	NI-60	24'-0"	22'-3"	21'-3"	-	24'-8"	22'-11"	21'-11"	-
	NI-80	25'-7"	23'-9"	22'-7"	-	26'-2"	24'-4"	23'-3"	-
	NI-90	26'-1"	24'-2"	23'-0"	-	26'-8"	24'-9"	23'-7"	-
16"	NI-60	26'-5"	24'-6"	23'-5"	-	27'-2"	25'-3"	24'-2"	-
	NI-80	28'-2"	26'-1"	24'-10"	-	28'-10"	26'-9"	25'-6"	-
	NI-90	28'-8"	26'-6"	25'-3"	-	29'-3"	27'-2"	25'-11"	-

Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

Maximum Floor Spans – M4.1

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	3/4 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	14'-11"
	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
11-7/8"	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
14"	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10"
	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
16"	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10"
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling 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"	14'-11"	18'-10"	17'-2"	16'-3"	14'-11"
	NI-60	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17'-6"	16'-6"	15'-5"
	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'-1"	20'-1"	18'-5"	17'-5"	16'-1"
	NI-40x	21'-10"	20'-4"	19'-0"	17'-0"	22'-5"	20'-6"	19'-0"	17'-0"
	NI-60	22'-1"	20'-7"	19'-8"	18'-4"	22'-8"	20'-10"	19'-8"	18'-4"
	NI-80	23'-8"	22'-0"	20'-11"	19'-10"	24'-1"	22'-6"	21'-6"	20'-0"
	NI-90	24'-1"	22'-5"	21'-4"	20'-2"	24'-7"	22'-11"	21'-10"	20'-7"
14"	NI-40x	24'-5"	22'-9"	20'-11"	18'-8"	25'-1"	22'-11"	20'-11"	18'-8"
	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-8"	22'-4"	20'-10"
	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"
16"	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	24'-9"	23'-1"
	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"

Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

Maximum Floor Spans – M6.1

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	5/8 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-
	NI-40x	15'-11"	15'-0"	14'-6"	-	16'-4"	15'-5"	14'-11"	-
	NI-60	16'-1"	15'-2"	14'-8"	-	16'-6"	15'-7"	15'-1"	-
	NI-80	17'-1"	16'-1"	15'-6"	-	17'-5"	16'-5"	15'-10"	-
11-7/8"	NI-20	16'-9"	15'-10"	15'-4"	-	17'-4"	16'-4"	15'-10"	-
	NI-40x	17'-10"	16'-10"	16'-3"	-	18'-6"	17'-4"	16'-9"	-
	NI-60	18'-1"	17'-0"	16'-5"	-	18'-9"	17'-6"	16'-11"	-
	NI-80	19'-6"	18'-0"	17'-4"	-	20'-1"	18'-7"	17'-9"	-
	NI-90	19'-11"	18'-4"	17'-8"	-	20'-5"	18'-11"	18'-1"	-
14"	NI-40x	19'-10"	18'-4"	17'-8"	-	20'-6"	19'-1"	18'-3"	-
	NI-60	20'-2"	18'-8"	17'-11"	-	20'-10"	19'-4"	18'-6"	-
	NI-80	21'-8"	20'-0"	19'-1"	-	22'-4"	20'-8"	19'-9"	-
	NI-90	22'-1"	20'-5"	19'-6"	-	22'-9"	21'-0"	20'-1"	-
16"	NI-60	22'-0"	20'-4"	19'-6"	-	22'-9"	21'-1"	20'-2"	-
	NI-80	23'-7"	21'-10"	20'-10"	-	24'-4"	22'-6"	21'-6"	-
	NI-90	24'-1"	22'-2"	21'-2"	-	24'-9"	22'-11"	21'-10"	-

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"	14'-3"	-
	NI-40x	17'-9"	16'-10"	15'-11"	-	18'-2"	16'-11"	15'-11"	-
	NI-60	17'-11"	16'-11"	16'-2"	-	18'-5"	17'-2"	16'-2"	-
	NI-80	19'-3"	17'-10"	17'-3"	-	19'-8"	18'-3"	17'-7"	-
11-7/8"	NI-20	19'-4"	18'-0"	17'-1"	-	19'-9"	18'-1"	17'-1"	-
	NI-40x	20'-10"	19'-4"	18'-6"	-	21'-5"	19'-11"	19'-0"	-
	NI-60	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-3"	-
	NI-80	22'-6"	20'-10"	19'-11"	-	23'-1"	21'-5"	20'-5"	-
	NI-90	23'-0"	21'-3"	20'-4"	-	23'-6"	21'-10"	20'-10"	-
14"	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	20'-11"	-
	NI-60	23'-9"	22'-0"	21'-0"	-	24'-5"	22'-8"	21'-8"	-
	NI-80	25'-4"	23'-6"	22'-5"	-	25'-11"	24'-1"	23'-0"	-
	NI-90	25'-10"	23'-11"	22'-9"	-	26'-5"	24'-6"	23'-4"	-
16"	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-
	NI-80	27'-11"	25'-10"	24'-7"	-	28'-7"	26'-6"	25'-3"	-
	NI-90	28'-5"	26'-3"	25'-0"	-	29'-0"	26'-11"	25'-8"	-

Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

Maximum Floor Spans – M7.1

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/480 under live load and L/240 under total load
Sheathing:	3/4 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

Joist depth	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling 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	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11"
	NI-60	17'-1"	16'-1"	15'-6"	14'-10"	17'-6"	16'-6"	15'-11"	15'-3"
	NI-80	18'-1"	17'-0"	16'-4"	15'-8"	18'-7"	17'-4"	16'-8"	16'-0"
11-7/8"	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-3"	17'-10"	17'-2"	16'-6"	19'-10"	18'-5"	17'-8"	16'-11"
	NI-60	19'-6"	18'-1"	17'-4"	16'-8"	20'-1"	18'-8"	17'-10"	17'-1"
	NI-80	20'-11"	19'-4"	18'-5"	17'-7"	21'-5"	19'-10"	18'-11"	17'-11"
	NI-90	21'-4"	19'-9"	18'-9"	17'-10"	21'-10"	20'-3"	19'-3"	18'-3"
14"	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"
	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"
	NI-80	23'-3"	21'-6"	20'-5"	19'-4"	23'-10"	22'-1"	21'-0"	19'-11"
	NI-90	23'-9"	21'-11"	20'-10"	19'-8"	24'-3"	22'-6"	21'-5"	20'-3"
16"	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"
	NI-80	25'-4"	23'-5"	22'-3"	21'-1"	26'-0"	24'-1"	22'-11"	21'-8"
	NI-90	25'-10"	23'-10"	22'-8"	21'-5"	26'-5"	24'-6"	23'-4"	22'-0"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling 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'-7"	17'-2"	16'-3"	14'-11"	18'-10"	17'-2"	16'-3"	14'-11"
	NI-60	18'-10"	17'-6"	16'-6"	15'-5"	19'-1"	17'-6"	16'-6"	15'-5"
	NI-80	20'-2"	18'-9"	17'-11"	16'-10"	20'-7"	19'-2"	18'-2"	16'-10"
11-7/8"	NI-20	20'-1"	18'-5"	17'-5"	16'-1"	20'-1"	18'-5"	17'-5"	16'-1"
	NI-40x	21'-9"	20'-3"	19'-0"	17'-0"	22'-4"	20'-5"	19'-0"	17'-0"
	NI-60	22'-0"	20'-6"	19'-7"	18'-4"	22'-7"	20'-10"	19'-8"	18'-4"
	NI-80	23'-6"	21'-10"	20'-10"	19'-9"	24'-0"	22'-5"	21'-4"	20'-0"
	NI-90	24'-0"	22'-4"	21'-3"	20'-1"	24'-6"	22'-10"	21'-9"	20'-7"
14"	NI-40x	24'-4"	22'-8"	20'-11"	18'-8"	25'-0"	22'-11"	20'-11"	18'-8"
	NI-60	24'-9"	23'-0"	22'-0"	20'-9"	25'-5"	23'-8"	22'-4"	20'-10"
	NI-80	26'-5"	24'-6"	23'-4"	22'-1"	27'-0"	25'-2"	24'-0"	22'-8"
	NI-90	26'-11"	25'-0"	23'-10"	22'-6"	27'-5"	25'-7"	24'-5"	23'-1"
16"	NI-60	27'-2"	25'-4"	24'-2"	22'-10"	27'-11"	26'-1"	24'-9"	23'-1"
	NI-80	29'-0"	26'-11"	25'-8"	24'-3"	29'-7"	27'-7"	26'-4"	24'-11"
	NI-90	29'-6"	27'-5"	26'-1"	24'-8"	30'-1"	28'-1"	26'-9"	25'-4"

Notes:

1. The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.