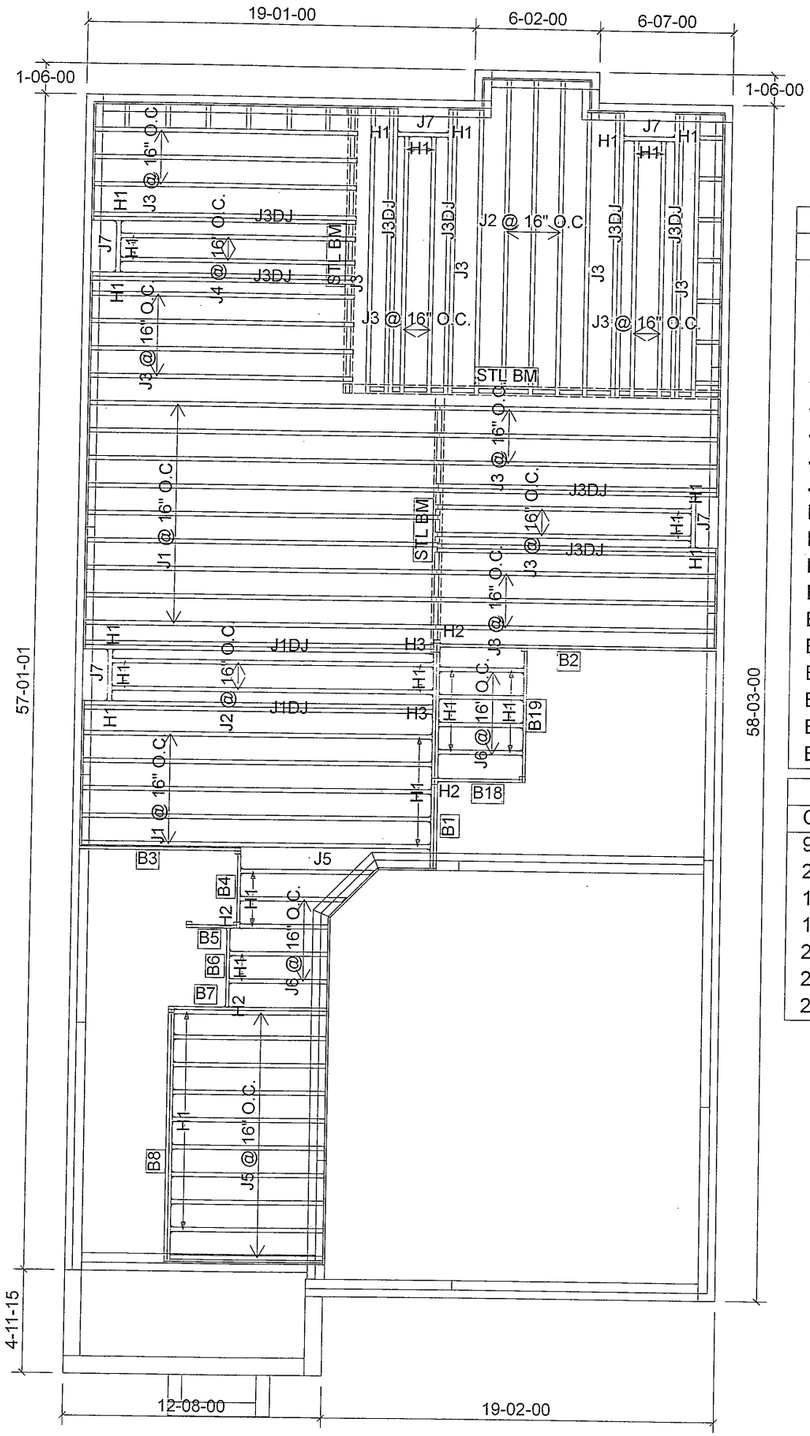


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	14
J1DJ	18-00-00	11 7/8" NI-40x	2	4
J2	16-00-00	11 7/8" NI-40x	1	5
J3	14-00-00	11 7/8" NI-40x	1	23
J3DJ	14-00-00	11 7/8" NI-40x	2	16
J4	12-00-00	11 7/8" NI-40x	1	2
J5	8-00-00	11 7/8" NI-40x	1	11
J6	6-00-00	11 7/8" NI-40x	1	8
J7	4-00-00	11 7/8" NI-40x	1	5
B2	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B19	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B18	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B4	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B6	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
9	H1	IUS2.56/11.88
20	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
2	H2	HUS1.81/10
2	H2	HUS1.81/10
2	H3	HU312-2

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

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: 2021/6
BUILDER: ROYAL PINE HOMES
SITE: VALES OF HUMBER NORTH
MODEL: 40-5
ELEVATION: A,B,C
LOT:
CITY: BRAMPTON
SALESMAN: RICK DICIANO
DESIGNER: AJ
REVISION:
DATE: 2021-08-30

1st FLOOR

DATE 9.01.21
BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS □AS PER PLAN WORK□ DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 17985-4 THROUGH DWG# TAM 17990-4, INCLUSIVE DATED 8.24.21

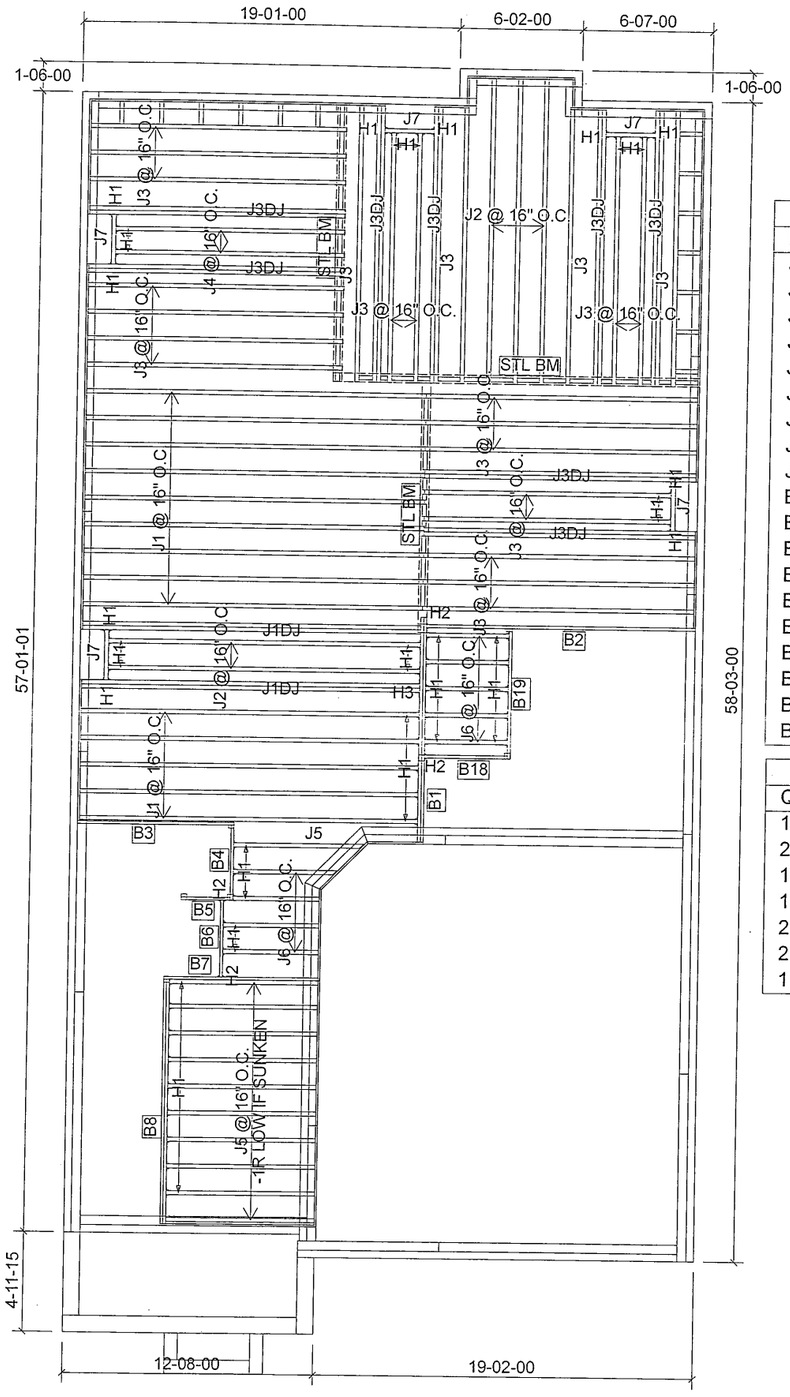
SEALED STRUCTURAL COMPONENTS ONLY: +18004-4 +18002-4
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16□ DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM, REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 19575-21
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

LICENSED PROFESSIONAL ENGINEER
S KATSOULAKOS
PROVINCE OF ONTARIO
9.01.21



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	14
J1DJ	18-00-00	11 7/8" NI-40x	2	4
J2	16-00-00	11 7/8" NI-40x	1	5
J3	14-00-00	11 7/8" NI-40x	1	23
J3DJ	14-00-00	11 7/8" NI-40x	2	16
J4	12-00-00	11 7/8" NI-40x	1	2
J5	8-00-00	11 7/8" NI-40x	1	11
J6	6-00-00	11 7/8" NI-40x	1	9
J7	4-00-00	11 7/8" NI-40x	1	5
B2	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B19	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B18	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B4	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B6	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
10	H1	IUS2.56/11.88
21	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
2	H2	HUS1.81/10
2	H2	HUS1.81/10
1	H3	HU312-2

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 20.0 lb/ft²
SNOW LOAD: 24.0 lb/ft²

SUBFLOOR: 3/4" GLUED AND NAILED

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: 2021/6
BUILDER: ROYAL PINE HOMES
SITE: VALES OF HUMBER NORTH
MODEL: 40-5
ELEVATION: A,B,C
LOT:
CITY: BRAMPTON
SALESMAN: RICK DICIANO
DESIGNER: AJ
REVISION:

DATE: 2021-08-30

1st FLOOR

SUNKEN

DATE 9 01 21

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 179852 THROUGH DWG# TAM 179904 INCLUSIVE DATED 8 24 21

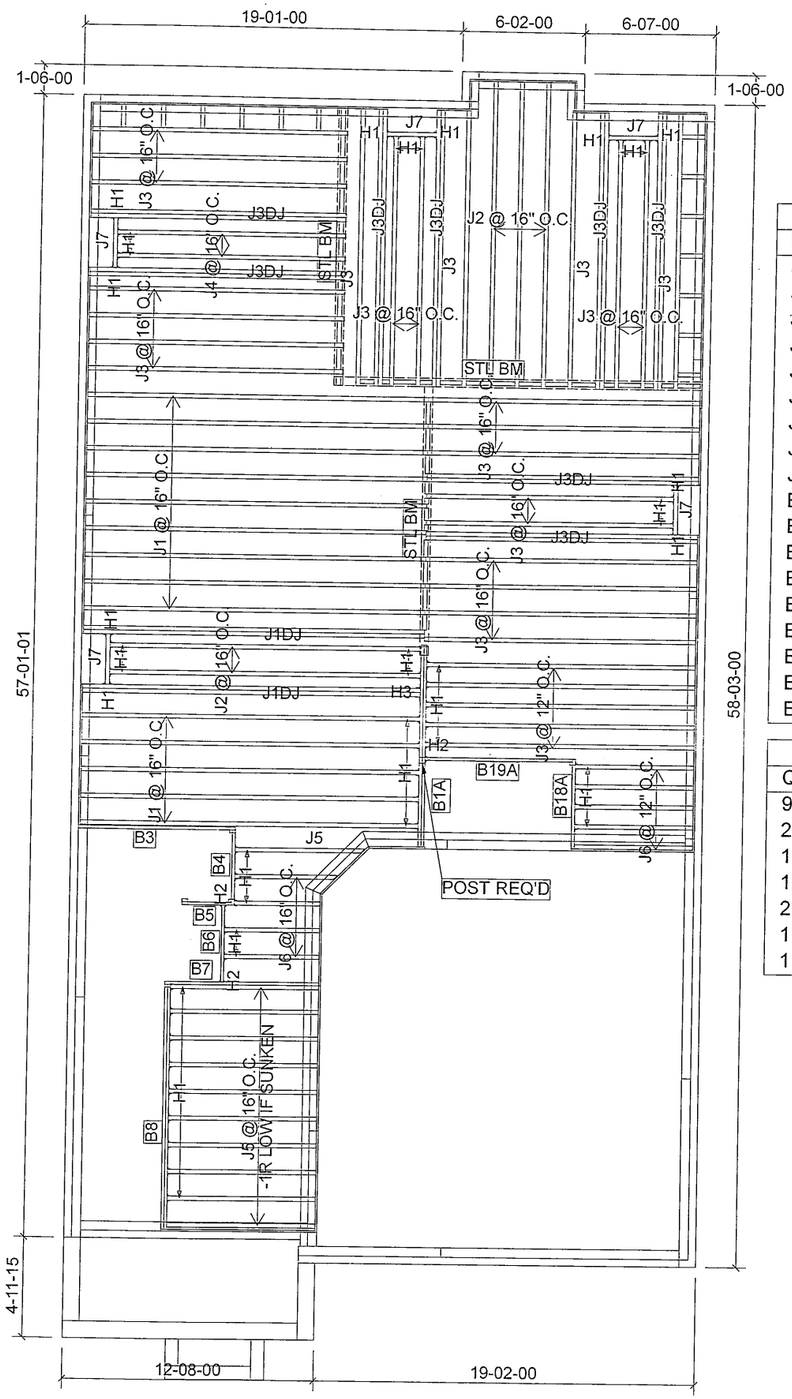
SEALED STRUCTURAL COMPONENTS ONLY: T18004-21 T18002-21
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16□ DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 195762
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

PROFESSIONAL ENGINEER PROVINCE OF ONTARIO
9 01 21
S. KATSOULAROS



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	14
J1DJ	18-00-00	11 7/8" NI-40x	2	4
J2	16-00-00	11 7/8" NI-40x	1	5
J3	14-00-00	11 7/8" NI-40x	1	29
J3DJ	14-00-00	11 7/8" NI-40x	2	16
J4	12-00-00	11 7/8" NI-40x	1	2
J5	8-00-00	11 7/8" NI-40x	1	11
J6	6-00-00	11 7/8" NI-40x	1	9
J7	4-00-00	11 7/8" NI-40x	1	5
B8	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B1A	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B19A	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B18A	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B4	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B5	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B6	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
9	H1	IUS2.56/11.88
21	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
10	H1	IUS2.56/11.88
2	H2	HUS1.81/10
1	H2	HUS1.81/10
1	H3	HU312-2

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

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: 2021/6
BUILDER: ROYAL PINE HOMES
SITE: VALES OF HUMBER NORTH
MODEL: 40-5
ELEVATION: A,B,C
LOT:
CITY: BRAMPTON
SALESMAN: RICK DICIANO
DESIGNER: AJ
REVISION:
DATE: 2021-08-30

1st FLOOR

OPTION

DATE 9 01 21

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECTS END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 179854 THROUGH DWG# TAM 179921, INCLUSIVE DATED 8 24 21

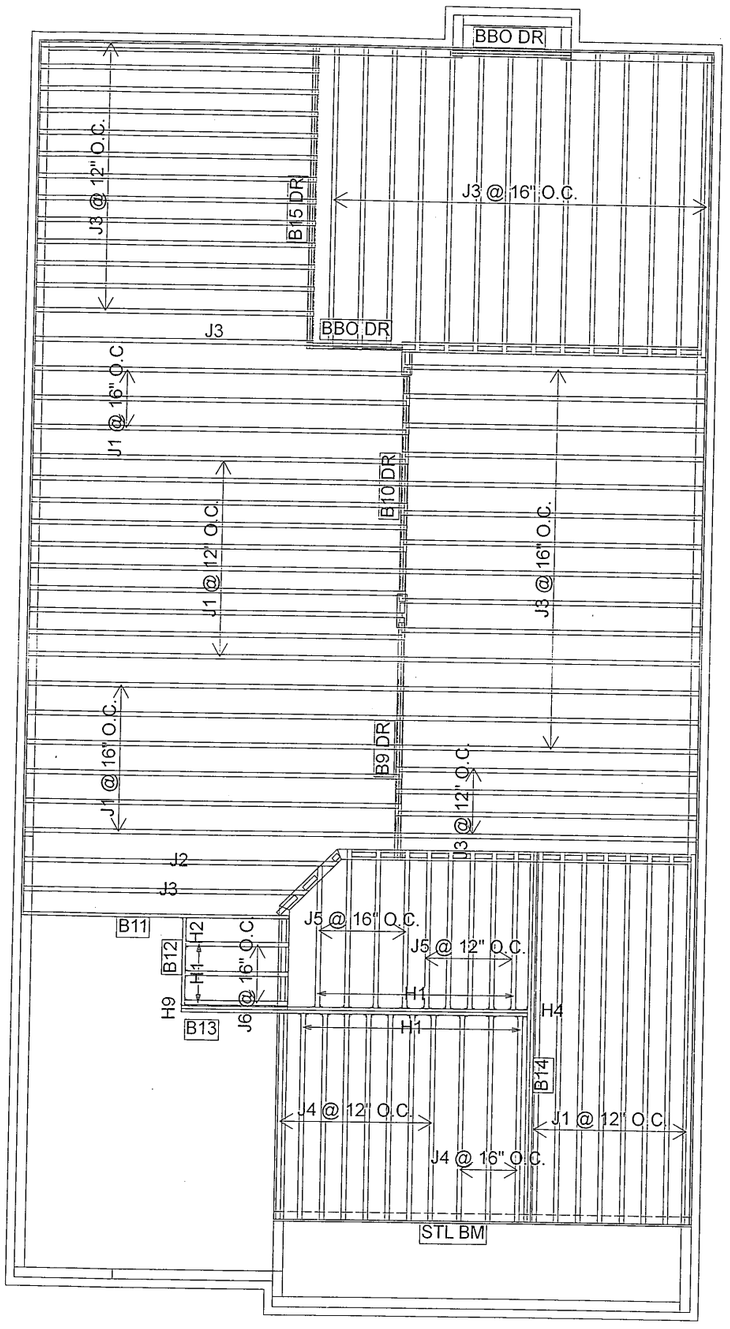
SEALED STRUCTURAL COMPONENTS ONLY: + 17899-21 + 18000-21
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16D DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 19577-21
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

9 01 21
S. KATSOULAKOS



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	27
J2	16-00-00	11 7/8" NI-40x	1	1
J3	14-00-00	11 7/8" NI-40x	1	47
J4	10-00-00	11 7/8" NI-40x	1	11
J5	8-00-00	11 7/8" NI-40x	1	9
J6	6-00-00	11 7/8" NI-40x	1	3
B10 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15 DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9 DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/11.88
19	H1	IUS2.56/11.88
1	H2	HUS1.81/10
1	H4	HGUS410
1	H9	LS90

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 20.0 lb/ft²
SNOW LOAD: 24.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: 2021/6
BUILDER: ROYAL PINE HOMES
SITE: VALES OF HUMBER NORTH
MODEL: 40-5
ELEVATION: A
LOT:
CITY: BRAMPTON
SALESMAN: RICK DICIANO
DESIGNER: AJ
REVISION:

DATE: 2021-08-30

2nd FLOOR

DATE 9 01 21

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 179824 THROUGH DWG# TAM 17998-21, INCLUSIVE DATED 8 7 21

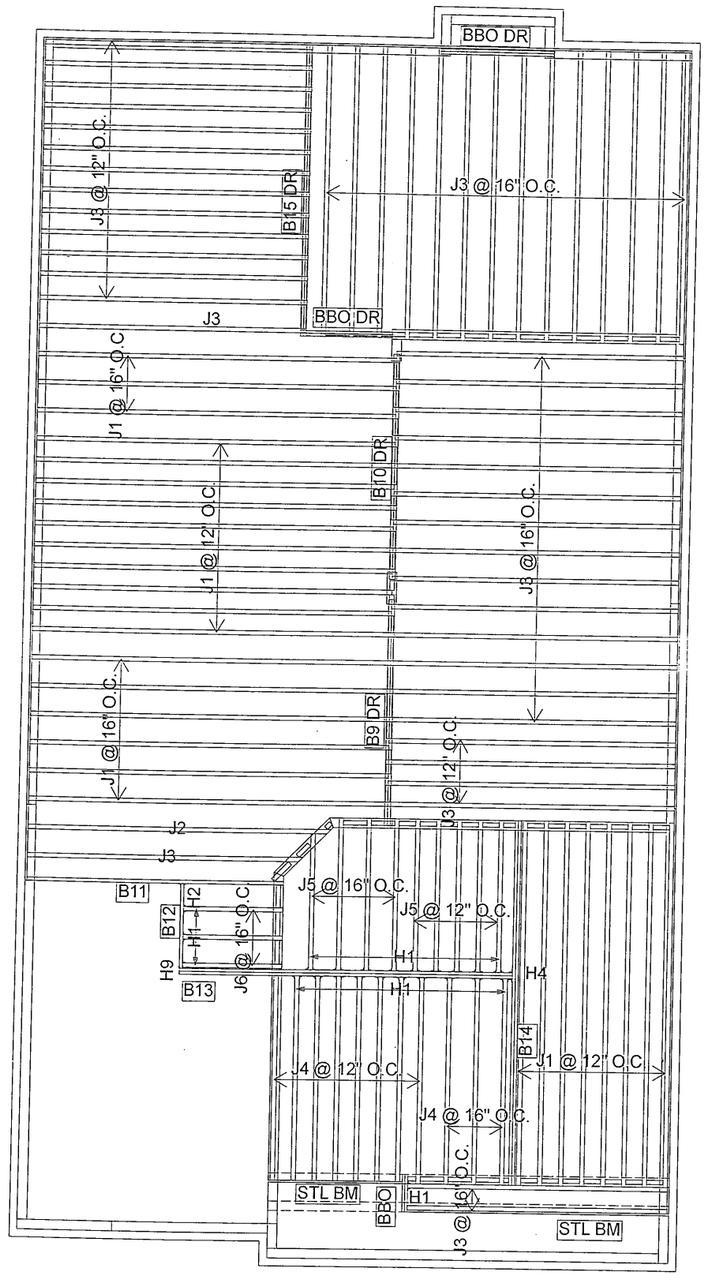
SEALED STRUCTURAL COMPONENTS ONLY:
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16D DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 195784
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

9 01 21
S. KATSOULAKOS
PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	27
J2	16-00-00	11 7/8" NI-40x	1	1
J3	14-00-00	11 7/8" NI-40x	1	49
J4	10-00-00	11 7/8" NI-40x	1	11
J5	8-00-00	11 7/8" NI-40x	1	9
J6	6-00-00	11 7/8" NI-40x	1	3
B10 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15 DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9 DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/11.88
19	H1	IUS2.56/11.88
1	H1	IUS2.56/11.88
1	H2	HUS1.81/10
1	H4	HGUS410
1	H9	LS90

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 20.0 lb/ft²
SNOW LOAD: 24.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: 2021/6
BUILDER: ROYAL PINE HOMES
SITE: VALES OF HUMBER NORTH
MODEL: 40-5
ELEVATION: B
LOT:
CITY: BRAMPTON
SALESMAN: RICK DICIANO
DESIGNER: AJ
REVISION:

DATE: 2021-08-30

2nd FLOOR

DATE 9 01 21

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS □AS PER PLAN WORK□ DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 179924 THROUGH DWG# TAM 179984 INCLUSIVE DATED 8 24 21

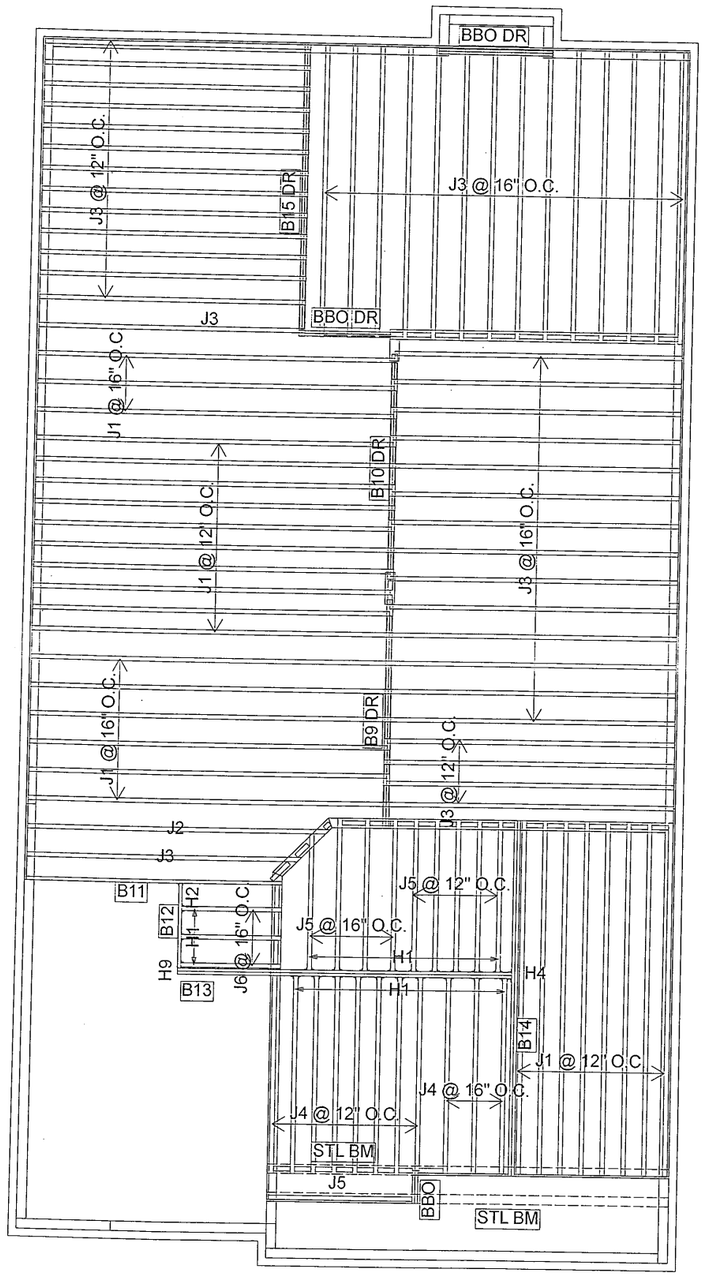
SEALED STRUCTURAL COMPONENTS ONLY:
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16□ DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 19579.21
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

PROFESSIONAL ENGINEER
9 01 21
S. KATSOULAS
PROVINCE OF ONTARIO



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	27
J2	16-00-00	11 7/8" NI-40x	1	1
J3	14-00-00	11 7/8" NI-40x	1	47
J4	10-00-00	11 7/8" NI-40x	1	11
J5	8-00-00	11 7/8" NI-40x	1	10
J6	6-00-00	11 7/8" NI-40x	1	3
B10 DR	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B14	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15 DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9 DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/11.88
19	H1	IUS2.56/11.88
1	H2	HUS1.81/10
1	H4	HGUS410
1	H9	LS90

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 20.0 lb/ft²
SNOW LOAD: 24.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: 2021/6
BUILDER: ROYAL PINE HOMES
SITE: VALES OF HUMBER NORTH
MODEL: 40-5
ELEVATION: C
LOT:
CITY: BRAMPTON
SALESMAN: RICK DICIANO
DESIGNER: AJ
REVISION:
DATE: 2021-08-30

2nd FLOOR

DATE 9 01 24
BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORK□ DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 179924 THROUGH DWG# TAM 179934, INCLUSIVE DATED 8/24

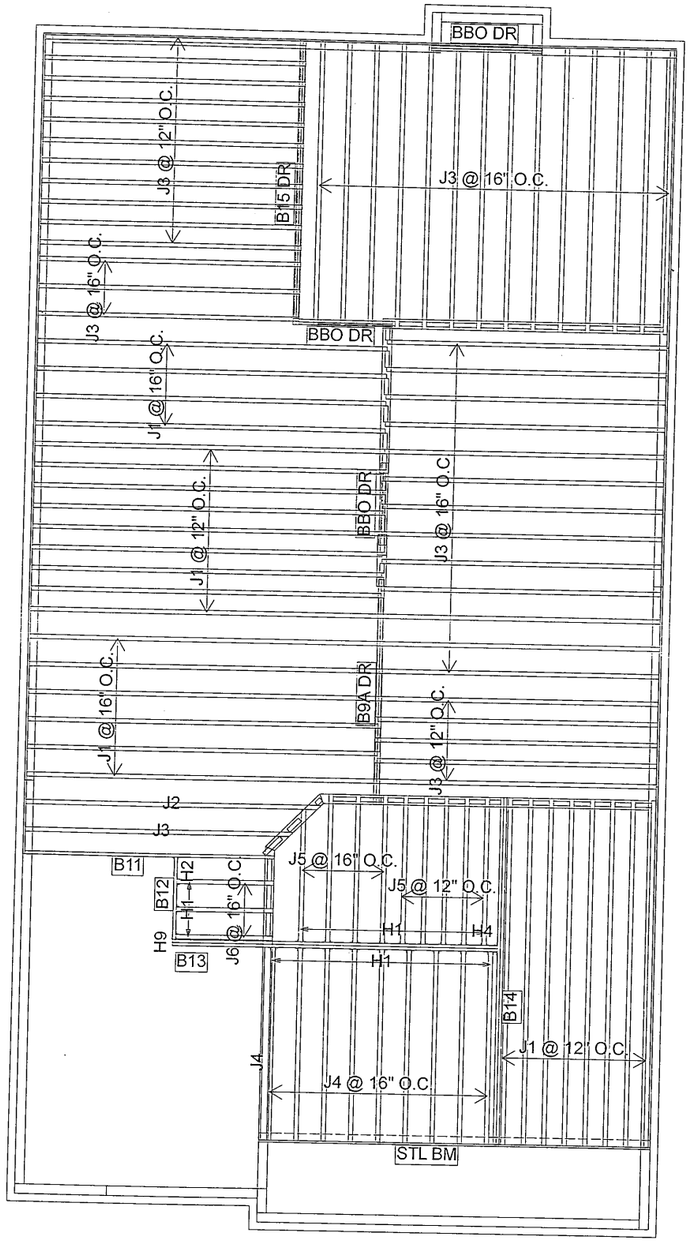
SEALED STRUCTURAL COMPONENTS ONLY:
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16□ DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 19580-24
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

LICENSED PROFESSIONAL ENGINEER
9 01 24
S. KATSOULAS
PROVINCE OF ONTARIO



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	27
J2	16-00-00	11 7/8" NI-40x	1	1
J3	14-00-00	11 7/8" NI-40x	1	47
J4	10-00-00	11 7/8" NI-40x	1	9
J5	8-00-00	11 7/8" NI-40x	1	9
J6	6-00-00	11 7/8" NI-40x	1	3
B14	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15 DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9A DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/11.88
18	H1	IUS2.56/11.88
1	H2	HUS1.81/10
1	H4	HGUS410
1	H9	LS90

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

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: 2021/6
BUILDER: ROYAL PINE HOMES
SITE: VALES OF HUMBER NORTH
MODEL: 40-5
ELEVATION: A
LOT:
CITY: BRAMPTON
SALESMAN: RICK DICIANO
DESIGNER: AJ
REVISION:
DATE: 2021-08-30

2nd FLOOR

OPT 5 BEDROOM

DATE 9/01/21
BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 179944 THROUGH DWG# TAM 179824 INCLUSIVE DATED 8/24

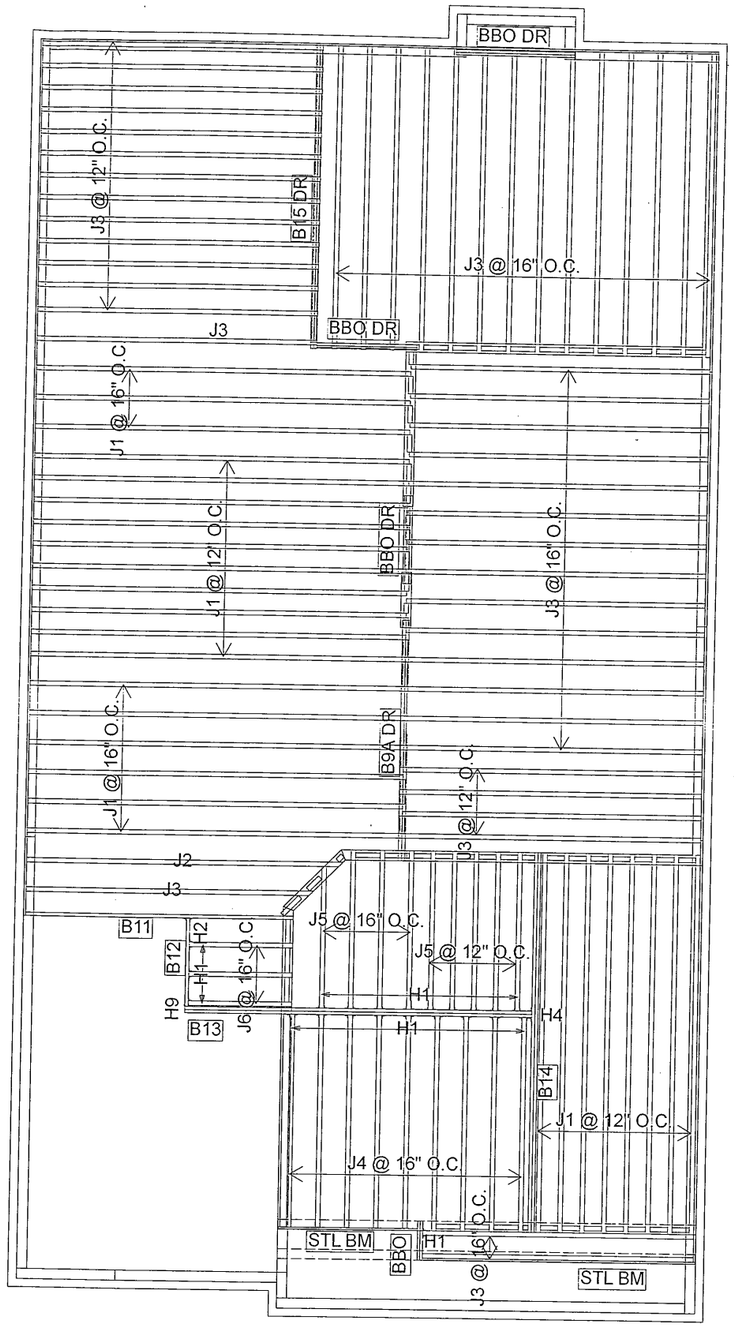
SEALED STRUCTURAL COMPONENTS ONLY: +18001-21
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16D DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 19581-21
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

PROFESSIONAL ENGINEER
9/01/21
S. KATSOULAKOS
PROVINCE OF ONTARIO



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	27
J2	16-00-00	11 7/8" NI-40x	1	1
J3	14-00-00	11 7/8" NI-40x	1	49
J4	10-00-00	11 7/8" NI-40x	1	9
J5	8-00-00	11 7/8" NI-40x	1	9
J6	6-00-00	11 7/8" NI-40x	1	3
B14	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15 DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9A DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/11.88
18	H1	IUS2.56/11.88
1	H1	IUS2.56/11.88
1	H2	HUS1.81/10
1	H4	HGUS410
1	H9	LS90

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 20.0 lb/ft²
SNOW LOAD: 24.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: 2021/6
BUILDER: ROYAL PINE HOMES
SITE: VALES OF HUMBER NORTH
MODEL: 40-5
ELEVATION: B
LOT:
CITY: BRAMPTON
SALESMAN: RICK DICIANO
DESIGNER: AJ
REVISION:

DATE: 2021-08-30

2nd FLOOR

OPTION 5 BEDROOM

DATE 9014
BCIN: 26064, FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 17994-21 THROUGH DWG# TAM 17980-21 INCLUSIVE DATED 8/24/21

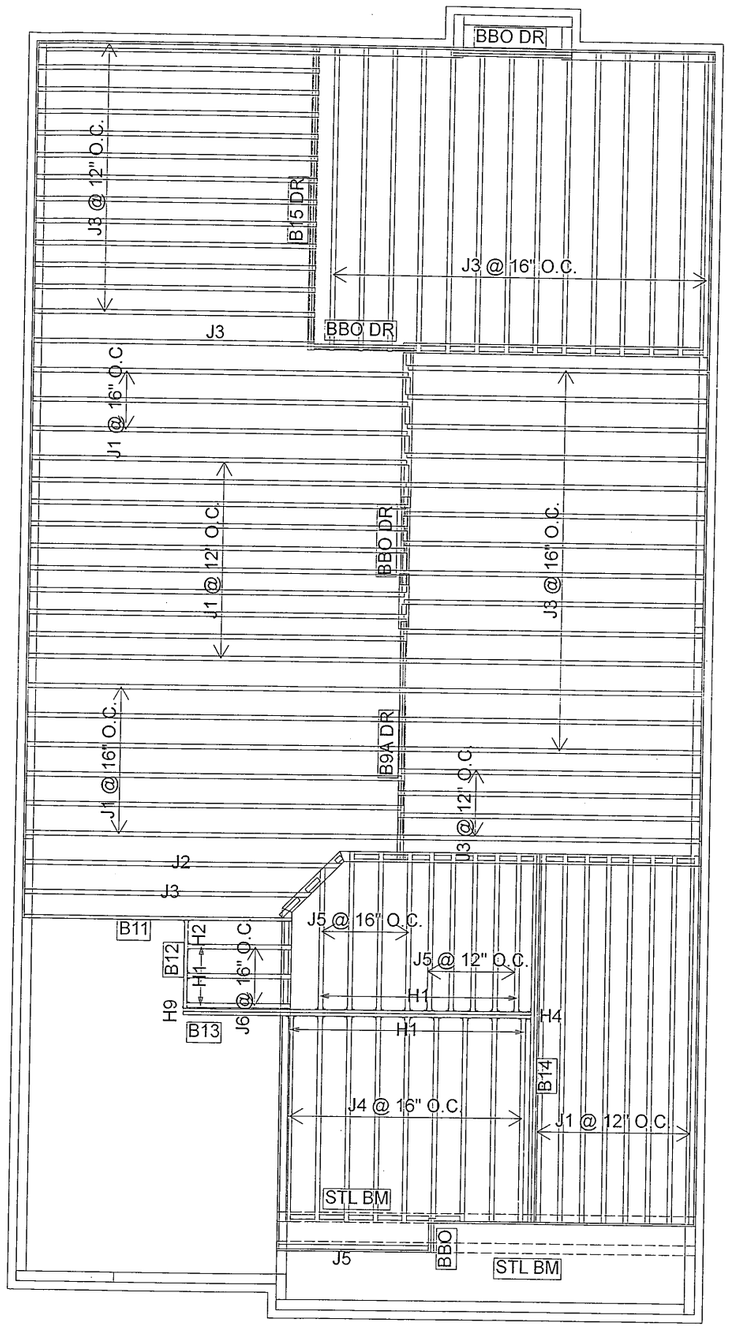
SEALED STRUCTURAL COMPONENTS ONLY: +18001-21
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/16D DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 19582-21
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

9014
S. KATSOULAKOS
PROVINCE OF ONTARIO



Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	27
J2	16-00-00	11 7/8" NI-40x	1	1
J3	14-00-00	11 7/8" NI-40x	1	47
J4	10-00-00	11 7/8" NI-40x	1	9
J5	8-00-00	11 7/8" NI-40x	1	10
J6	6-00-00	11 7/8" NI-40x	1	3
B14	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B11	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15 DR	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B9A DR	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Connector Summary		
Qty	Manuf	Product
3	H1	IUS2.56/11.88
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1	H2	HUS1.81/10
1	H4	HGUS410
1	H9	LS90

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

LOADING:
DESIGN LOADS: L/480.000
LIVE LOAD: 40.0 lb/ft²
DEAD LOAD: 20.0 lb/ft²
SNOW LOAD: 24.0 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED: 2021/6
BUILDER: ROYAL PINE HOMES
SITE: VALES OF HUMBER NORTH
MODEL: 40-5
ELEVATION: C
LOT:
CITY: BRAMPTON
SALESMAN: RICK DICIANO
DESIGNER: AJ
REVISION:

DATE: 2021-08-30

2nd FLOOR

OPTION 5 BEDROOM

DATE 9 01 21
BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS □AS PER PLAN WORK□ DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
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DWG# TAM 179924 THROUGH DWG# TAM 179824, INCLUSIVE DATED 8 24 21

SEALED STRUCTURAL COMPONENTS ONLY: +18001-24
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
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I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 145824
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

PROFESSIONAL ENGINEER PROVINCE OF ONTARIO
9 01 21
S KATSOULAKOS

NORDIC

INSTALLATION GUIDE
NORDIC JOIST

NS-GI33

ENGLISH

VERSION
2020-10-01

Engineered Wood Products

BASIC INSTALLATION GUIDE FOR RESIDENTIAL FLOORS

NORDIC JOIST

NORDIC STRUCTURES

nordic.ca

INSTALLING NORDIC I-JOISTS

1. Installation of Nordic I-joists shall be as shown in details 1.
2. Except for cutting to length, I-joist flanges should never be cut, drilled or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. Concentrated loads should only be applied to the top surface of the top flange. Concentrated loads should not be suspended from the bottom flange with the exception of light loads, such as ceiling fans or light fixtures.
5. I-joists must be protected from the weather prior to installation.
6. I-joists must not be used in applications where they will be permanently exposed to weather, or will reach a moisture content of 15 percent or greater, such as in swimming pool or hot tub areas. They must not be installed where they will remain in direct contact with concrete or masonry.
7. End bearing length must be at least 1-3/4 inch. For multiple-span joists, intermediate bearing length must be at least 3-1/2 inches.
8. Ends of floor joists shall be restrained to prevent rollover. Use rim board or I-joist blocking panels.
9. I-joists installed beneath bearing walls perpendicular to the joists shall have full-depth blocking panels, rim board, or squash blocks (cripple blocks) to transfer gravity loads from above the floor system to the wall or foundation below.
10. For I-joists installed directly beneath bearing walls parallel to the joists or used as rim board or blocking panels, the maximum vertical load using a single I-joist is 3,300 plf, and 6,600 plf if double I-joists are used.
11. Continuous lateral support of the I-joist's compression flange is required to prevent rotation and buckling. In simple span uses, lateral support of the top flange is normally supplied by the floor sheathing. In multiple-span or cantilever applications, bracing of the I-joist's bottom flange is also required at interior supports of multiple-span joists, and at the end support next to the cantilever extension. The ends of all cantilever extensions must be laterally braced as shown in details 3, 4, or 5.
12. Nails installed in flange face or edge shall be spaced in accordance with the applicable building code requirements or approved building plans, but should not be closer than those specified on page 3.3 of the Nordic Joist Technical Guide (NS-GT3).
13. Details 1 show only I-joist-specific fastener requirements. For other fastener requirements, see the applicable building code.
14. For proper temporary bracing of wood I-joists and placement of temporary construction loads, see APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors, Form J735.

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.

SAFETY AND CONSTRUCTION PRECAUTIONS

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

Avoid Accidents by Following these Important Guidelines:

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

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

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

Never stack building materials over unsheathed I-joists. Once sheathed, do not overstress I-joist with concentrated loads from building materials.

NORDIC I-JOIST SERIES — RESIDENTIAL SERIES

NI-20
2x3 S-P-F No. 2
3/8 in. web
Depths
9-1/2 and 11-7/8 in.
33 pieces per unit

NI-40x
2x3 1950f MSR
3/8 in. web
Depths
9-1/2, 11-7/8 and 14 in.
33 pieces per unit

NI-60
2x3 2100f MSR
3/8 in. web
Depths
9-1/2, 11-7/8, 14 and 16 in.
33 pieces per unit

NI-80
2x4 2100f MSR
3/8 in. web
Depths
9-1/2, 11-7/8, 14 and 16 in.
23 pieces per unit

NI-90
2x4 2400f MSR
7/16 in. web
Depths
11-7/8, 14 and 16 in.
23 pieces per unit

RIM BOARDS

Width	Length
1-1/8 in.	16 ft

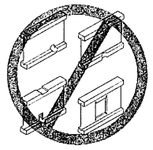
Depths
9-1/2 to 16 in.
APA Rim Board Plus

WEB HOLES AND OPENINGS

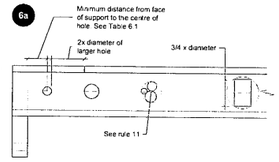
WEB HOLES IN I-JOISTS

Rules for Cutting Holes in I-Joists

1. The distance between the inside edge of the support and the centreline of any hole shall be in compliance with the requirements of Table 6.1
2. I-joist top and bottom flanges must never be cut, notched or otherwise modified
3. Whenever possible, field-cut holes should be centred on the middle of the web
4. The maximum size hole that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole and the adjacent I-joist flange
5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole - or twice the length of the longest side of the longest rectangular hole -, and each hole must be sized and located in compliance with the requirements of Table 6.1
7. Holes measuring 1-1/2 inch or smaller shall be permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.
8. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
9. All holes shall be cut in accordance with the restrictions listed above and as illustrated in detail 6a
10. Limit three maximum-size holes per span
11. A group of round holes at approximately the same location shall be permitted if it meets the requirements for a single round hole circumscribed around them



6a



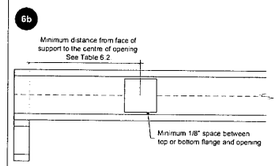
Notes:
1. Never drill, cut or notch the flange, or over-cut the web
2. Holes in web should be cut with a sharp saw
3. For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch-diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist

DUCT CHASE OPENINGS

Rules for Cutting Duct Chase Openings in I-Joists

1. The distance between the inside edge of the support and the centreline of a duct chase opening shall be in compliance with the requirements of Table 6.2
2. I-joist top and bottom flanges must never be cut, notched or otherwise modified
3. The maximum depth of a duct chase opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the opening and the adjacent I-joist flange
4. All openings shall be cut in accordance with the restrictions listed above and as illustrated in detail 6b
5. Limit one maximum-size duct chase opening per span

6b



Notes:
1. Never drill, cut or notch the flange, or over-cut the web
2. Holes in web should be cut with a sharp saw
3. Avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch-diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist

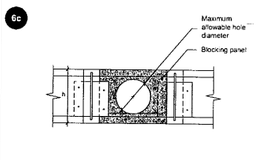
I-joist depth (in.)	Maximum depth of the opening (in.)
9-1/2	6-1/4
11-7/8	8-5/8
14	10-3/4
16	12-3/4

HOLES IN BLOCKING PANELS

Maximum Allowable Hole Size in Lateral-restraint-only Blocking Panels

1. The maximum allowable hole size for a lateral-restraint-only blocking panel is 2/3 of the lesser dimension of the blocking's depth or length. Assuming the blocking panel is longer than its height (or depth), the table aside applies. For other applications, contact Nordic Structures
2. Holes cut into the blocking panels are subject to the following limitations:
   - The top and bottom flanges of an I-joist blocking panel must never be cut, notched or otherwise modified
   - Field-cut holes must be centred in the blocking horizontally
   - While round holes are preferred, rectangle holes may be used provided the corners are not over-cut. Slightly rounding corners or pre-drilling corners with a 1-inch-diameter bit is recommended
   - All holes must be cut in a workman-like manner in accordance with the limitations listed above

6c



I-joist or rim board blocking depth (in.)	Maximum allowable hole diameter (in.) [a]
9-1/2	6-1/4
11-7/8	7-3/4
14	9-1/4
16	10-1/2

[a] Maximum allowable hole diameter in blocking panel, where the blocking panel is longer than its height

TABLE 6.1 – LOCATION OF WEB HOLES

Simple or multiple span
Minimum distance from inside face of any support to centre of hole (ft-in.)

Joist depth	Joist series	Round hole diameter (in.) 2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12	12-3/4
9-1/2"	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"	-	-	-	-	-	-	-	-	-
	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6'-0"	6'-4"	-	-	-	-	-	-	-	-	-
	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"	-	-	-	-	-	-	-	-	-
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"	-	-	-	-	-	-	-	-	-
11-7/8"	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	-	-	-	-	-	-
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"	-	-	-	-	-	-
	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"	-	-	-	-	-	-
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	-	-	-	-	-	-
	NI-90	0'-7"	0'-8"	1'-5"	3'-2"	4'-10"	5'-4"	6'-9"	8'-9"	10'-2"	-	-	-	-	-	-
14"	NI-40x	0'-7"	0'-8"	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	-	-	-
	NI-60	0'-7"	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"	-	-	-
	NI-80	0'-10"	2'-0"	3'-4"	4'-9"	6'-2"	6'-5"	7'-6"	9'-0"	10'-0"	10'-8"	12'-4"	13'-9"	-	-	-
	NI-90	0'-7"	0'-8"	0'-10"	2'-5"	4'-0"	4'-5"	5'-9"	7'-5"	8'-8"	9'-4"	11'-4"	12'-11"	-	-	-
16"	NI-60	0'-7"	0'-8"	0'-8"	1'-6"	2'-10"	3'-2"	4'-2"	5'-6"	6'-4"	7'-0"	8'-5"	9'-8"	10'-2"	12'-2"	13'-9"
	NI-80	0'-7"	1'-3"	2'-6"	3'-10"	5'-3"	5'-6"	6'-6"	8'-0"	9'-0"	9'-5"	11'-0"	12'-3"	12'-9"	14'-5"	16'-0"
	NI-90	0'-7"	0'-8"	0'-8"	1'-9"	3'-3"	3'-8"	4'-9"	6'-5"	7'-5"	8'-0"	9'-10"	11'-3"	11'-9"	13'-9"	15'-4"

Notes:
1. Tabulated values are applicable to residential floor construction meeting the above design criteria.
2. The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

Design Criteria

Joist spacing	Up to 24 inches
Loads	Live load = 40 psf and dead load = 15 psf
Deflection limits	L/480 under live load and L/240 under total load

TABLE 6.2 – LOCATION OF DUCT CHASE OPENINGS

Simple span
Minimum distance from inside face of any support to centre of opening (ft-in.)

Joist depth	Joist series	Duct chase length (in.) 8	10	12	14	16	18	20	22	24
9-1/2"	NI-20	4'-1"	4'-5"	4'-10"	-	-	-	-	-	-
	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	-	-
	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	-	-
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"
11-7/8"	NI-20	5'-9"	6'-2"	6'-6"	-	-	-	-	-	-
	NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	-	-
	NI-60	7'-3"	7'-8"	8'-0"	8'-6"	9'-0"	9'-3"	9'-9"	-	-
	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-6"
	NI-90	7'-6"	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	10'-11"
14"	NI-40x	8'-1"	8'-7"	9'-0"	9'-6"	10'-1"	10'-7"	11'-2"	-	-
	NI-60	8'-9"	9'-3"	9'-8"	10'-11"	10'-6"	11'-1"	11'-6"	-	-
	NI-80	9'-0"	9'-3"	9'-9"	10'-1"	10'-7"	11'-1"	11'-6"	12'-1"	12'-6"
	NI-90	9'-2"	9'-8"	10'-0"	10'-6"	10'-11"	11'-5"	11'-9"	12'-4"	12'-11"
16"	NI-60	10'-3"	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	-	-
	NI-80	10'-4"	10'-9"	11'-3"	11'-9"	12'-1"	12'-7"	13'-1"	13'-8"	14'-4"
	NI-90	10'-9"	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14'-2"	14'-10"

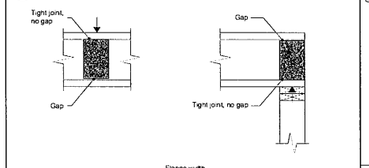
Design Criteria

Joist spacing	Up to 24 inches
Loads	Live load = 40 psf and dead load = 15 psf
Deflection limits	L/480 under live load and L/240 under total load

Note:
1. Tabulated values are applicable to residential floor construction meeting the above design criteria

WEB STIFFENERS

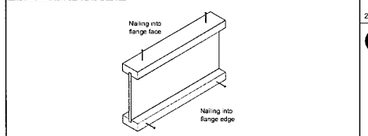
2



Stiffener Size Requirements

Flange width (in.)	Web stiffener size each side of web (in.)
2-1/2	1 x 2-5/16 Minimum width
3-1/2	1-1/2 x 2-5/16 Minimum width

NAIL SPACING

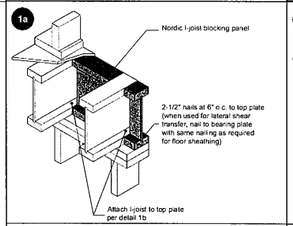


Recommended Closest Nail Spacing for Fastening Sheathing to I-joist Flanges to Minimize Splitting

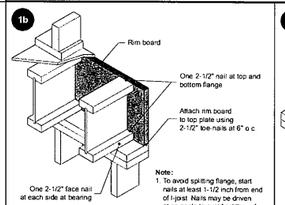
Fastener size (diameter x length)	Flange face nailing [a] End distance (in.)	Flange face nailing [a] Nail spacing (in.)	Flange edge nailing [b] End distance (in.)	Flange edge nailing [b] Nail spacing (in.) Nailed to only one flange edge	Nailed to both flange edges
0.128" or smaller in diameter, and 3-1/4" or shorter in length	2	2	2	2	4
Greater than 0.128" up to 0.148" in diameter, and 3-1/4" or shorter in length	2	3	2	3	6

[a] If more than one row is required, offset rows a minimum of 1/2 inch and stagger.
[b] Closest nail spacing measured from one flange edge. Nails on opposite flange edge must be offset one-half the minimum spacing.

1a

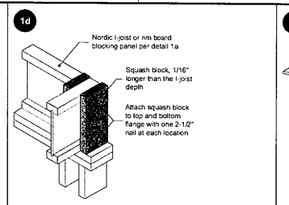


1b

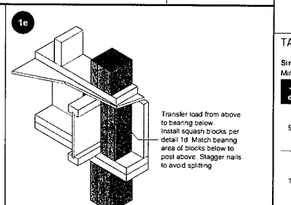


Note:
1. To avoid splitting flange, start nails at least 1-1/2 inch from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

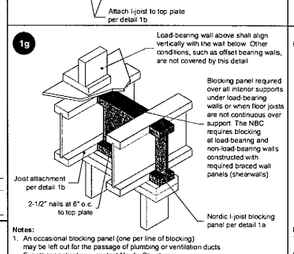
1d



1e

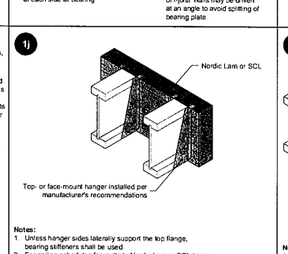


1g



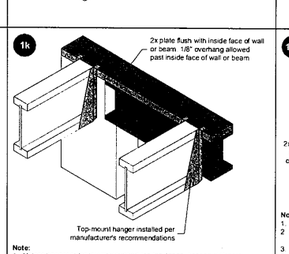
Notes:
1. An occasional blocking panel (one per line of blocking) may be left out for the passage of plumbing or ventilation ducts. For other applications, contact Nordic Structures.
2. For other options, see details 1g-1 to 1g-5.

1j



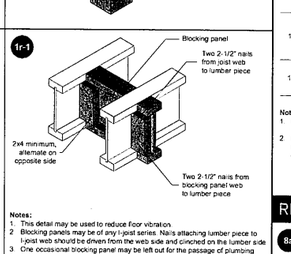
Notes:
1. Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.
2. For nailing schedules for multiple Nordic Lam or SCL beams, see the manufacturer's recommendations.

1k



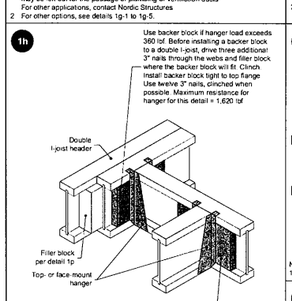
Note:
1. Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

1r-1



Notes:
1. This detail may be used to reduce floor vibrations.
2. Blocking panels may be of any I-joist series. Nails attaching lumber piece to I-joist web should be driven from the web side and clinched on the lumber side.
3. One occasional blocking panel may be left out for the passage of plumbing or ventilation ducts. Otherwise, a hole of not more than 2/3 of the lesser dimension of the blocking depth or length may be drilled in the blocking panel.

1h

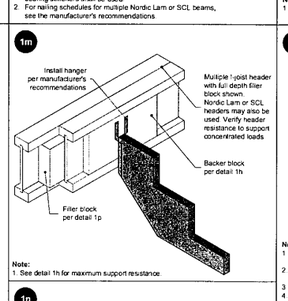


Flange width (in.)	Material thickness required (in.) [a]	Minimum depth (in.) [b]
2-1/2	1	5-1/2
3-1/2	1-1/2	7-1/4

[a] Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-O325 Standard.
[b] For face-mount hangers use net joist depth minus 3-1/4 inches for joists with 1-1/2-inch-thick flanges.

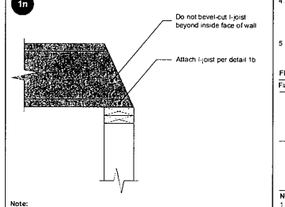
Notes:
1. Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.
2. For hanger resistance, see manufacturer's recommendations.
3. Verify double I-joist resistance to support concentrated loads.
4. Backer blocks must be long enough to permit required nailing without splitting.

1m



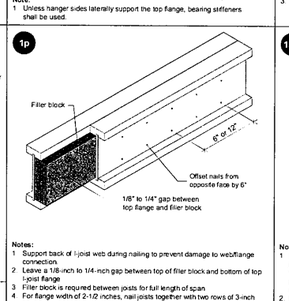
Note:
1. See detail 1h for maximum support resistance.

1n



Note:
1. Blocking required at bearing for lateral support, not shown for clarity.

1p



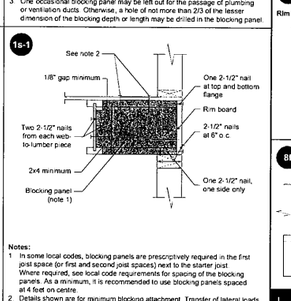
Notes:
1. Support back of I-joist web during nailing to prevent damage to web/flange connection.
2. Leave a 1/8-inch to 1/4-inch gap between top of filler block and bottom of top I-joist flange.
3. Filler block is required between joists for full length of span.
4. For flange width of 2-1/2 inches, nail joists together with two rows of 3-inch nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist (total of four nails per foot). For flange width of 3-1/2 inches, use two rows of 3-inch nails at 6 inches o.c. on each side of the double I-joist (total of eight nails per foot).
5. The maximum factored load that may be applied to one side of the double I-joist using this detail is 860 lbf/ft.

Filler Block Requirements for Double I-joist Construction

Flange width (in.)	Net depth (in.)	Filler block size (in.)	Example
2-1/2	9-1/2	2-1/8 to 2-1/4 x 6	2x6 + 5/8" or 3/4" sheathing
	11-7/8	2-1/8 to 2-1/4 x 8	2x8 + 5/8" or 3/4" sheathing
	14	2-1/8 to 2-1/4 x 10	2x10 + 5/8" or 3/4" sheathing
	16	2-1/8 to 2-1/4 x 12	2x12 + 5/8" or 3/4" sheathing
3-1/2	9-1/2	3 x 6	2 x 2x6
	11-7/8	3 x 8	2 x 2x8
	14	3 x 10	2 x 2x10
	16	3 x 12	2 x 2x12

Note:
1. The height of the filler block may be different from that specified in the table, as long as it allows nailing and respects the required gap.

1s-1



Notes:
1. In some local codes, blocking panels are prescriptively required in the first joist space (or first and second joist spaces) next to the starter joist. Where required, see local code requirements for spacing of the blocking panels. As a minimum, it is recommended to use blocking panels spaced at 4 feet on centre.
2. Details shown are for minimum blocking attachment. Transfer of lateral loads may require additional fasteners. In such cases, nail size, spacing and specific design detailing shall be provided by the building designer.
3. Where blocking panels are required between adjacent joists, the blocking panels can be staggered by approximately 3 inches, and end-nailed as shown.
4. Nails attaching lumber piece to I-joist web should be driven from the web side and clinched on the lumber side.

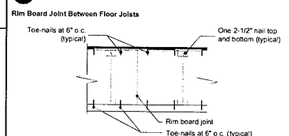
This document supersedes all previous versions. For the latest version, consult nordic.ca or contact Nordic Structures.

FOR ALL construction details →DC3

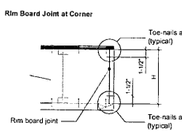
RIM BOARDS

8a

Rim Board Joint Between Floor Joists

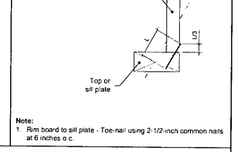


Rim Board Joint at Corner



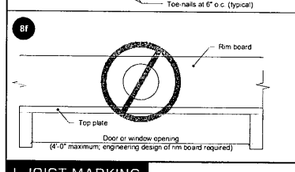
Notes:
1. Floor sheathing to rim board - Use 2-1/2-inch common nails at 6 inches o.c. Caution: The horizontal load resistance is not necessarily increased with a decreased nail spacing. Under no circumstances should the nail spacing be less than 3 inches. The 3-1/2-inch common nails used to connect the bottom plate of a wall to the rim board through the sheathing do not reduce the horizontal load resistance of the rim board provided that the 2-1/2-inch nail spacing (sheathing-rim board) is 6 inches o.c. and the 3-1/2-inch nail spacing (bottom plate-sheathing-rim board) is in accordance with the prescriptive requirements of the applicable code. APA recommends a minimum 3/8-inch panel edge distance be maintained when nailing. Calculations show that the tongue does not need to be removed for floor sheathing 7/8-inch thick or less when used in conjunction with rim boards of 1-1/8 inch. Some local code jurisdictions, however, may require removal of the tongue at the edge of floor framing when nailing it to rim board.
2. Rim board to I-joist - Use two 2-1/2-inch common nails, one each into the top and bottom flange.

8b



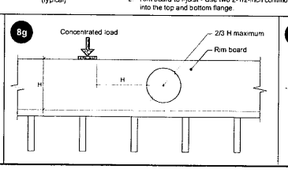
Note:
1. Rim board to sill plate - Toe-nail using 2-1/2-inch common nails at 6 inches o.c.

8f

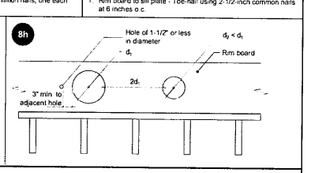


Note:
1. Do not cut holes in rim board installed over openings, such as doors or windows, where the rim board is not fully supported, except that holes of 1-1/2 inch or less in size are permitted provided they are positioned at the mid-depth and in the middle one-third of the span.

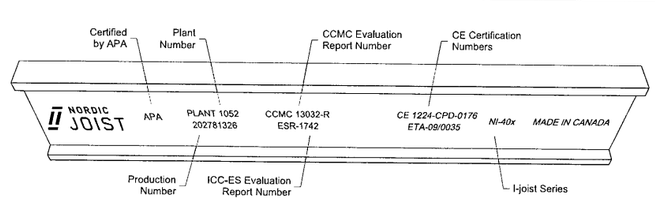
8g



8h



I-JOIST MARKING



Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information — **Application number:**

Building number, street name:		Unit no.	Lot/con.
Municipality: CITY OF BRAMPTON	Postal code	Plan number/ other description	

B. Individual who reviews and takes responsibility for design activities

Name: SAM KATSOULAKOS		Firm: MICRO CITY ENGINEERING SERVICES INC.	
Street address: R.R #1, PO BOX 61		Unit no.	Lot/con.
Municipality: GLENCOE	Postal code: N0L 1M0	Province: ONTARIO	E-mail: mcengr@xplornet.com
Telephone number: (519) 287-2242 Business	Fax number		Cell number

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work:

ROYAL PINE HOMES–PROJECT:VALES OF HUMBER NORTH–MODEL: 40-5-ELEV.A OR B OR C–1ST FLOOR-NOT LOT SPECIFIC
REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK LUMBER INC. (SEE DWG **#TAM19575-21** DATED **9-01-21**). SUPPORTING STRUCTURE (S) TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS (print name) declare that (choose one as appropriate):

☒ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 26064

Firm BCIN: 29991

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

☐ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date 9 01 21 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG #TAM19575-21S
DWG #TAM19584-21S
9 01 21

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information			**Application number:**
Building number, street name:			**Unit no.** / **Lot/con.**
Municipality CITY OF BRAMPTON	**Postal code**	**Plan number/ other description**	

B. Individual who reviews and takes responsibility for design activities

Name		Firm	
SAM KATSOULAKOS		**MICRO CITY ENGINEERING SERVICES INC.**	
Street address **R.R #1, PO BOX 61**			Unit no. / Lot/con.
Municipality **GLENCOE**	Postal code **N0L 1M0**	Province **ONTARIO**	E-mail **mcengr@xplornet.com**
Telephone number **(519) 287-2242 Business**	Fax number		Cell number

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work:

ROYAL PINE HOMES–PROJECT:VALES OF HUMBER NORTH–MODEL: 40-5-ELEV.A OR B OR C-1ST FLOOR-SUNKEN-NOT LOT SPECIFIC REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK LUMBER INC. (SEE DWG **#TAM19576-21** DATED **9-01-21**). SUPPORTING STRUCTURE (S) TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS declare that (choose one as appropriate):
(print name)

☒ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 26064

Firm BCIN: 29991

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.
Individual BCIN: _____

Basis for exemption from registration: _____

☐ The design work is exempt from the registration and qualification requirements of the Building Code.
Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date 9 01 21 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG #TAM19576-21S
DWG #TAM19585-21S
9 01 21

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information — **Application number:**

Building number, street name:		Unit no.	Lot/con.
Municipality: CITY OF BRAMPTON	Postal code:	Plan number/ other description:	

B. Individual who reviews and takes responsibility for design activities

Name: SAM KATSOULAKOS		Firm: MICRO CITY ENGINEERING SERVICES INC.	
Street address: R.R #1, PO BOX 61		Unit no.	Lot/con.
Municipality: GLENCOE	Postal code: N0L 1M0 / Province: ONTARIO	E-mail: mcengr@xplornet.com	
Telephone number: (519) 287-2242 Business	Fax number:	Cell number:	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work:

ROYAL PINE HOMES–PROJECT:VALES OF HUMBER NORTH–MODEL: 40-5-ELEV.A OR B OR C–1ST FLOOR-OPTION-NOT LOT SPECIFIC REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK LUMBER INC. (SEE DWG **#TAM19577-21** DATED **9-01-21**). SUPPORTING STRUCTURE (S) TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS (print name) declare that (choose one as appropriate):

☒ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 26064

Firm BCIN: 29991

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

☐ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date 9 01 21 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG #TAM19577-21S
DWG #TAM19586-21S

9 01 21

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information			**Application number:**
Building number, street name:			**Unit no.** / **Lot/con.**
Municipality CITY OF BRAMPTON	**Postal code**	**Plan number/ other description**	

B. Individual who reviews and takes responsibility for design activities

Name		Firm	
SAM KATSOULAKOS		MICRO CITY ENGINEERING SERVICES INC.	
Street address R.R #1, PO BOX 61			Unit no. / Lot/con.
Municipality GLENCOE	Postal code N0L 1M0	Province ONTARIO	E-mail mcengr@xplornet.com
Telephone number (519) 287-2242 Business	Fax number		Cell number

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work:

ROYAL PINE HOMES–PROJECT:VALES OF HUMBER NORTH–MODEL: 40-5-ELEV.A–2ND FLOOR-NOT LOT SPECIFIC
REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK LUMBER INC. (SEE DWG **#TAM19578-21** DATED **9-01-21**). SUPPORTING STRUCTURE (S) TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS declare that (choose one as appropriate):
(print name)

☒ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 26064

Firm BCIN: 29991

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.
Individual BCIN: _____

Basis for exemption from registration: _____

☐ The design work is exempt from the registration and qualification requirements of the Building Code.
Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date 9 01 21 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG #TAM19578-21S
DWG #TAM19587-21S
9 01 21

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information — **Application number:**

Building number, street name:		Unit no.	Lot/con.
Municipality: CITY OF BRAMPTON	Postal code:	Plan number/ other description:	

B. Individual who reviews and takes responsibility for design activities

Name: SAM KATSOULAKOS		Firm: MICRO CITY ENGINEERING SERVICES INC.	
Street address: R.R #1, PO BOX 61		Unit no.	Lot/con.
Municipality: GLENCOE	Postal code: N0L 1M0 / Province: ONTARIO	E-mail: mcengr@xplornet.com	
Telephone number: (519) 287-2242 Business	Fax number:	Cell number:	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work:

ROYAL PINE HOMES–PROJECT:VALES OF HUMBER NORTH–MODEL: 40-5-ELEV.B–2ND FLOOR-NOT LOT SPECIFIC
REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK LUMBER INC. (SEE DWG **#TAM19579-21** DATED **9-01-21**). SUPPORTING STRUCTURE (S) TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS (print name) declare that (choose one as appropriate):

☒ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 26064

Firm BCIN: 29991

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

☐ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date 9 OCT Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG #TAM19579-21S
DWG #TAM19588-21S
9 OCT

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information — **Application number:**

Building number, street name:		Unit no.	Lot/con.
Municipality: CITY OF BRAMPTON	Postal code:	Plan number/ other description:	

B. Individual who reviews and takes responsibility for design activities

Name: SAM KATSOULAKOS		Firm: MICRO CITY ENGINEERING SERVICES INC.	
Street address: R.R #1, PO BOX 61		Unit no.	Lot/con.
Municipality: GLENCOE	Postal code: N0L 1M0	Province: ONTARIO	E-mail: mcengr@xplornet.com
Telephone number: (519) 287-2242 Business	Fax number:		Cell number:

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work:

ROYAL PINE HOMES–PROJECT:VALES OF HUMBER NORTH–MODEL: 40-5-ELEV.C–2ND FLOOR-NOT LOT SPECIFIC
REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK LUMBER INC. (SEE DWG **#TAM19580-21** DATED **9-01-21**). SUPPORTING STRUCTURE (S) TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS declare that (choose one as appropriate):
(print name)

☒ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 26064

Firm BCIN: 29991

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.
Individual BCIN: _____

Basis for exemption from registration: _____

☐ The design work is exempt from the registration and qualification requirements of the Building Code.
Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date 9 01 21 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG #TAM19580-21S
DWG #TAM19589-21S
9 01 21

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information — **Application number:**

Building number, street name:		Unit no.	Lot/con.
Municipality: CITY OF BRAMPTON	Postal code:	Plan number/ other description:	

B. Individual who reviews and takes responsibility for design activities

Name: SAM KATSOULAKOS		Firm: MICRO CITY ENGINEERING SERVICES INC.	
Street address: R.R #1, PO BOX 61		Unit no.	Lot/con.
Municipality: GLENCOE	Postal code: N0L 1M0 / Province: ONTARIO	E-mail: mcengr@xplornet.com	
Telephone number: (519) 287-2242 Business	Fax number:	Cell number:	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work:

ROYAL PINE HOMES–PROJECT:VALES OF HUMBER NORTH–MODEL: 40-5-ELEV.A–2ND FLOOR-OPT. 5 BEDROOM-NOT LOT SPECIFIC REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK LUMBER INC. (SEE DWG **#TAM19581-21** DATED **9-01-21**). SUPPORTING STRUCTURE (S) TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS (print name) declare that (choose one as appropriate):

☒ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 26064

Firm BCIN: 29991

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

☐ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date 9 01 21 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG #TAM19581-21S
DWG #TAM19590-21S 9 01 21

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name:		Application number:	Unit no.	Lot/con.
Municipality: CITY OF BRAMPTON	Postal code:	Plan number/ other description:		

B. Individual who reviews and takes responsibility for design activities

Name: SAM KATSOULAKOS		Firm: MICRO CITY ENGINEERING SERVICES INC.		
Street address: R.R #1, PO BOX 61			Unit no.	Lot/con.
Municipality: GLENCOE	Postal code: N0L 1M0	Province: ONTARIO	E-mail: mcengr@xplornet.com	
Telephone number: (519) 287-2242 Business	Fax number:		Cell number:	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work:

ROYAL PINE HOMES–PROJECT:VALES OF HUMBER NORTH–MODEL: 40-5-ELEV.B–2ND FLOOR-OPT. 5 BEDROOM-NOT LOT SPECIFIC REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK LUMBER INC. (SEE DWG **#TAM19582-21** DATED **9-01-21**). SUPPORTING STRUCTURE (S) TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS (print name) declare that (choose one as appropriate):

☒ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 26064

Firm BCIN: 29991

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

☐ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date 9 01 21 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG #TAM19582-21S
DWG #TAM19591-21S 9 01 21

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name:			Application number:	
			Unit no.	Lot/con.
Municipality: CITY OF BRAMPTON	Postal code	Plan number/ other description		

B. Individual who reviews and takes responsibility for design activities

Name: SAM KATSOULAKOS		Firm: MICRO CITY ENGINEERING SERVICES INC.	
Street address: R.R #1, PO BOX 61		Unit no.	Lot/con.
Municipality: GLENCOE	Postal code: N0L 1M0 / Province: ONTARIO	E-mail: mcengr@xplornet.com	
Telephone number: (519) 287-2242 Business	Fax number	Cell number	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
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☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work:

ROYAL PINE HOMES–PROJECT:VALES OF HUMBER NORTH–MODEL: 40-5-ELEV.C–2ND FLOOR-OPT. 5 BEDROOM-NOT LOT SPECIFIC REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK LUMBER INC. (SEE DWG **#TAM19583-21** DATED **9-01-21**). SUPPORTING STRUCTURE (S) TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS declare that (choose one as appropriate):
(print name)

☒ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 26064

Firm BCIN: 29991

☐ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.
Individual BCIN: _____

Basis for exemption from registration: _____

☐ The design work is exempt from the registration and qualification requirements of the Building Code.
Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date 9 01 21 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
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DWG #TAM19583-21S
DWG #TAM19592-21S

9 01 21

NORDIC STRUCTURES	COMPANY July 14, 2021 09:38	PROJECT J1 1ST FLOOR.wwb

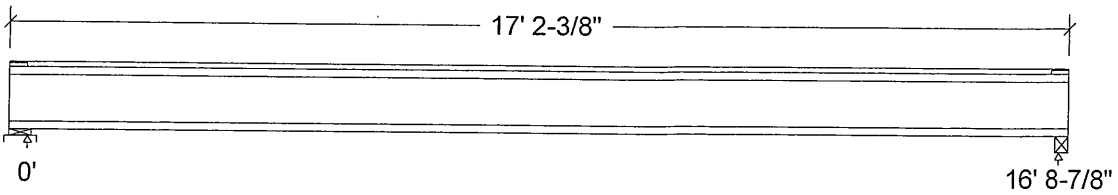
Design Check Calculation Sheet

Nordic Sizer – Canada 8.0

Loads:

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

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



Unfactored:			
Dead	223		223
Live	446		446
Factored:			
Total	949		949
Bearing:			
Capacity			
Joist	2336		2138
Support	7744		-
Des ratio			
Joist	0.41		0.44
Support	0.12		-
Load case	#2		#2
Length	4-3/8		2-5/8
Min req'd	1-1/2		1-1/2
Stiffener	No		No
KD	1.00		1.00
KB support	1.00		-
fcp sup	769		-
Kzcp sup	1.15		-

*Minimum bearing length for joists is 1-1/2" for exterior supports

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

Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Steel Beam, W;
Total length: 17' 2-3/8"; Clear span: 16' 7-3/8"; 3/4" nailed and glued OSB sheathing

This section PASSES the design code check.

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 949	Vr = 2336	lbs	Vf/Vr = 0.41
Moment(+)	Mf = 3969	Mr = 6255	lbs-ft	Mf/Mr = 0.63
Perm. Defl'n	0.12 = < L/999	0.56 = L/360	in	0.21
Live Defl'n	0.23 = L/858	0.42 = L/480	in	0.56
Total Defl'n	0.35 = L/572	0.84 = L/240	in	0.42
Bare Defl'n	0.29 = L/693	0.56 = L/360	in	0.52
Vibration	Lmax = 16'-8.9	Lv = 18'-1.3	ft	0.92
Defl'n	= 0.030	= 0.038	in	0.78

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

PE NL

OWP NO. TAM17983-21
STRUCTURAL
COMPONENT ONLY

Additional Data:

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

CRITICAL LOAD COMBINATIONS:

```
Shear      : LC #2  = 1.25D + 1.5L
Moment(+)  : LC #2  = 1.25D + 1.5L
Deflection: LC #1  = 1.0D  (permanent)
            LC #2  = 1.0D + 1.0L  (live)
            LC #2  = 1.0D + 1.0L  (total)
            LC #2  = 1.0D + 1.0L  (bare joist)
Bearing    : Support 1 - LC #2 = 1.25D + 1.5L
             Support 2 - LC #2 = 1.25D + 1.5L
Load Types:  D=dead  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:

EIeff = 459.76 lb-in^2 K = 6.18e06 lbs GA = 0.77e06 lb

"Live" deflection is due to all non-dead loads (live, wind, snow…) CONFORMS TO OBC 2012

Design Notes:

AMENDED 2020

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. 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.
7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
8. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.

DWG NO. TAM17983-21
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES	COMPANY July 14, 2021 09:37	PROJECT J1 2ND FLOOR.wwb

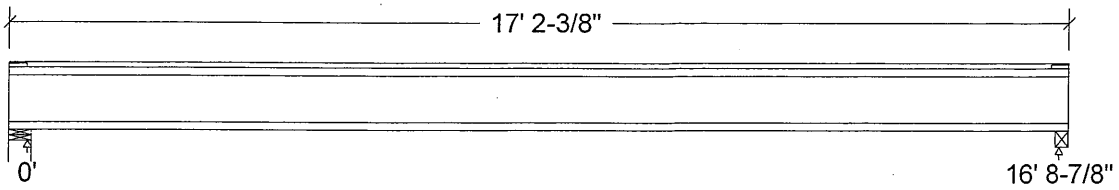
Design Check Calculation Sheet

Nordic Sizer – Canada 8.0

Loads:

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

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



Unfactored:			
Dead	223		223
Live	446		446
Factored:			
Total	949		949
Bearing:			
Capacity			
Joist	2336		2138
Support	7735		4043
Des ratio			
Joist	0.41		0.44
Support	0.12		0.23
Load case	#2		#2
Length	4-3/8		2-5/8
Min req'd	1-1/2		1-1/2
Stiffener	No		No
KD	1.00		1.00
KB support	-		1.00
fcp sup	769		769
Kzcp sup	-		1.00

*Minimum bearing length for joists is 1-1/2" for exterior supports

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

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

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

Total length: 17' 2-3/8"; Clear span: 16' 7-3/8"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

p6 of 6

DWG NO. TAM17984-21
STRUCTURAL
COMPONENT ONLY

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

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 949	Vr = 2336	lbs	Vf/Vr = 0.41
Moment(+)	Mf = 3969	Mr = 6255	lbs-ft	Mf/Mr = 0.63
Perm. Defl'n	0.12 = < L/999	0.56 = L/360	in	0.21
Live Defl'n	0.24 = L/838	0.42 = L/480	in	0.57
Total Defl'n	0.36 = L/559	0.84 = L/240	in	0.43
Bare Defl'n	0.29 = L/695	0.56 = L/360	in	0.52
Vibration	Lmax = 16'-8.9	Lv = 17'-8.1	ft	0.95
Defl'n	= 0.032	= 0.038	in	0.84

Additional Data:

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

CRITICAL LOAD COMBINATIONS:

```
Shear      : LC #2  = 1.25D + 1.5L
Moment(+)  : LC #2  = 1.25D + 1.5L
Deflection: LC #1  = 1.0D  (permanent)
            LC #2  = 1.0D + 1.0L  (live)
            LC #2  = 1.0D + 1.0L  (total)
            LC #2  = 1.0D + 1.0L  (bare joist)
Bearing    : Support 1 - LC #2 = 1.25D + 1.5L
            Support 2 - LC #2 = 1.25D + 1.5L
Load Types:  D=dead  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:

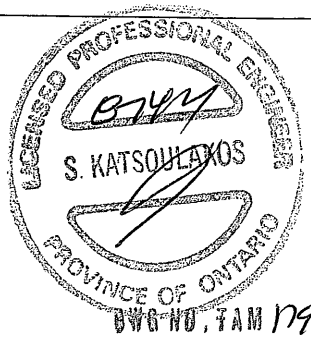
```
EIeff = 447.63 lb-in^2  K =  6.18e06 lbs  GA = 0.77e06 lb
"Live" deflection is due to all non-dead loads (live, wind, snow…)
```

CONFORMS TO OBC 2012

Design Notes:

AMENDED 2020

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. 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.
7. Floor vibration design from the CCMC Concluding Report (1997) on vibration controlled spans for engineered wood products.
8. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



DWG NO. TAM 1984-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade ENGINEERED WOOD PRODUCTS

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

PASSED

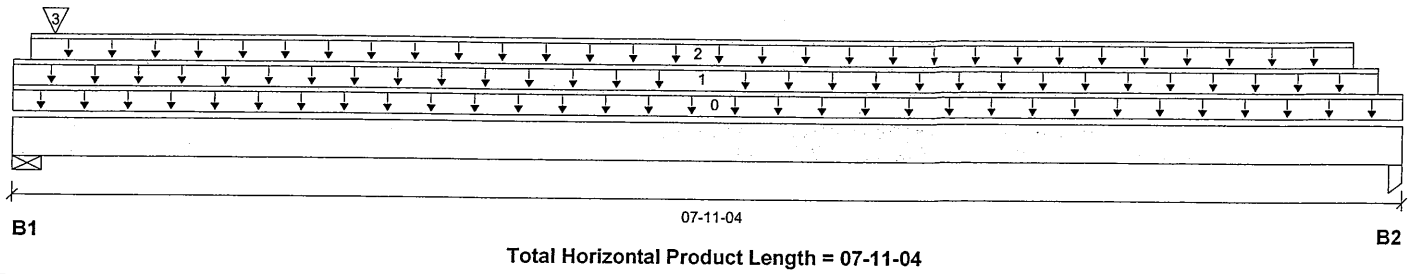
1ST FLR FRAMING\Flush Beams\B3(i1447) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B3(i1447)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 07-11-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	131 / 0	339 / 0		
B2, 3-1/2"	22 / 0	250 / 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	07-11-04	Top		6			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	07-09-08	Top	6	3			n\a
2	WALL	Unf. Lin. (lb/ft)	L	00-01-02	07-07-12	Top		60			n\a
3	E13(i1208)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	Top	107	65			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	646 ft-lbs	11502 ft-lbs	5.6%	0	04-00-10
End Shear	252 lbs	4701 lbs	5.4%	0	01-05-06
Total Load Deflection	L/999 (0.01")	n\a	n\a	4	04-00-10
Live Load Deflection	L/999 (0.001")	n\a	n\a	5	04-00-10
Max Defl.	0.01"	n\a	n\a	4	04-00-10
Span / Depth	7.4				

Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate 5-1/2" x 1-3/4"	474 lbs	12.3%	6.2%	Spruce-Pine-Fir
B2	Column 3-1/2" x 1-3/4"	350 lbs	10.8%	7.2%	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 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9
Calculations assume unbraced length of Top: 00-00-00, Bottom: 07-04-00.

CONFORMS TO OBC 2012
AMENDED 2020

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM 17985-21
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.

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

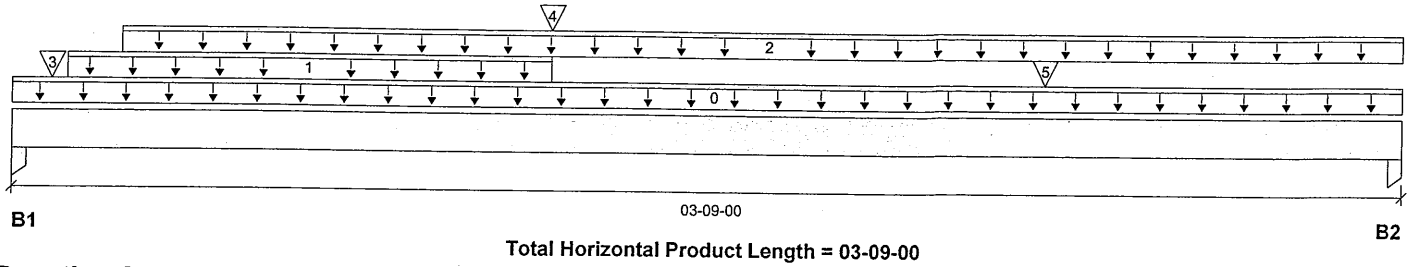
1ST FLR FRAMING\Flush Beams\B4(i1448) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B4(i1448)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 03-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	239 / 0	231 / 0		
B2, 1-3/4"	167 / 0	202 / 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	03-09-00	Top		6			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-01-12	01-05-04	Top	6				n\a
2	WALL	Unf. Lin. (lb/ft)	L	00-03-08	03-09-00	Top		60			n\a
3	J6(i1528)	Conc. Pt. (lbs)	L	00-01-04	00-01-04	Top	108	54			n\a
4	J6(i1597)	Conc. Pt. (lbs)	L	01-05-04	01-05-04	Top	126	63			n\a
5	J5(i1456)	Conc. Pt. (lbs)	L	02-09-04	02-09-04	Top	164	82			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	445 ft-lbs	17696 ft-lbs	2.5%	1	01-10-09
End Shear	355 lbs	7232 lbs	4.9%	1	02-07-06
Total Load Deflection	L/999 (0.001")	n\a	n\a	4	01-11-07
Live Load Deflection	L/999 (0.001")	n\a	n\a	5	01-11-14
Max Defl.	0.001"	n\a	n\a	4	01-11-07
Span / Depth	3.5				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	3-1/2" x 1-3/4"	647 lbs	13.0%	8.7%	Unspecified
B2	Column	1-3/4" x 1-3/4"	503 lbs	20.2%	13.5%	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 086.
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

LICENSED PROFESSIONAL ENGINEER
0141
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM 17986-21
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.

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

PASSED

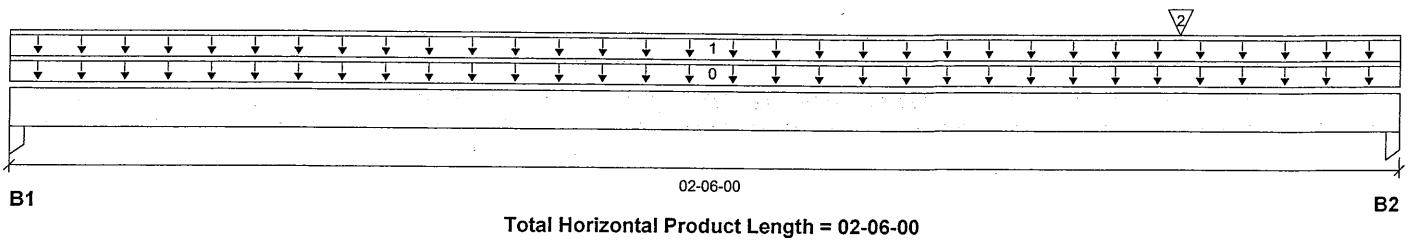
1ST FLR FRAMING\Flush Beams\B5(i1486) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B5(i1486)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 02-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	55 / 0	117 / 0		
B2, 1-3/4"	324 / 0	250 / 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	02-06-00	Top		6			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	02-06-00	Top		60			n\a
2	B6(i1476)	Conc. Pt. (lbs)	L	02-01-02	02-01-02	Top	378	201			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	247 ft-lbs	16325 ft-lbs	1.5%	1	02-01-02
End Shear	123 lbs	7232 lbs	1.7%	1	01-03-06
Total Load Deflection	L/999 (0")	n\a	n\a	4	01-05-02
Live Load Deflection	L/999 (0")	n\a	n\a	5	01-05-13
Max Defl.	0"	n\a	n\a	4	01-05-02
Span / Depth	2.2				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	3-1/2" x 1-3/4"	163 lbs	5.0%	3.4%	Unspecified
B2	Column	1-3/4" x 1-3/4"	798 lbs	32.1%	21.3%	Unspecified

LICENSED PROFESSIONAL ENGINEER
0194
S. KATSOULAROS
PROVINCE OF ONTARIO

DWG NO. TAM 179821
STRUCTURAL
COMPONENT ONLY

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: 02-00-04, Bottom: 02-00-04.

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® ,

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

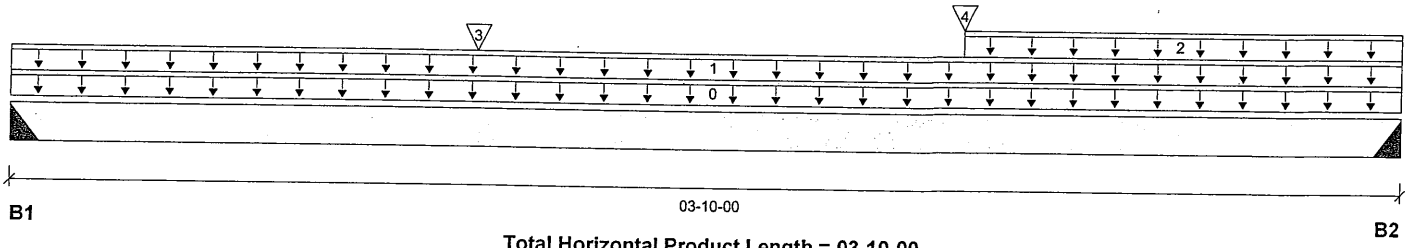
1ST FLR FRAMING\Flush Beams\B6(i1476) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B6(i1476)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 03-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	359 / 0	191 / 0		
B2, 2"	376 / 0	200 / 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	03-10-00	Top		6			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	03-10-00	Top	120	60			n\a
2	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	02-07-04	03-10-00	Top	25	12			n\a
3	J6(i1530)	Conc. Pt. (lbs)	L	01-03-04	01-03-04	Top	132	66			n\a
4	J6(i1576)	Conc. Pt. (lbs)	L	02-07-04	02-07-04	Top	112	56			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	746 ft-lbs	17696 ft-lbs	4.2%	1	01-10-12
End Shear	473 lbs	7232 lbs	6.5%	1	01-01-14
Total Load Deflection	L/999 (0.003")	n\a	n\a	4	01-10-12
Live Load Deflection	L/999 (0.002")	n\a	n\a	5	01-10-12
Max Defl.	0.003"	n\a	n\a	4	01-10-12
Span / Depth	3.7				

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAROS
PROVINCE OF ONTARIO

DWG NO. TAM 17966-21
STRUCTURAL
COMPONENT ONLY

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	777 lbs	n\a	18.2%	HUS1.81/10
B2	Hanger	2" x 1-3/4"	814 lbs	n\a	19.1%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 11-7/8" 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: 01-02-00.

CONFORMS TO OBC 2012
AMENDED 2020

Disclosure

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Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

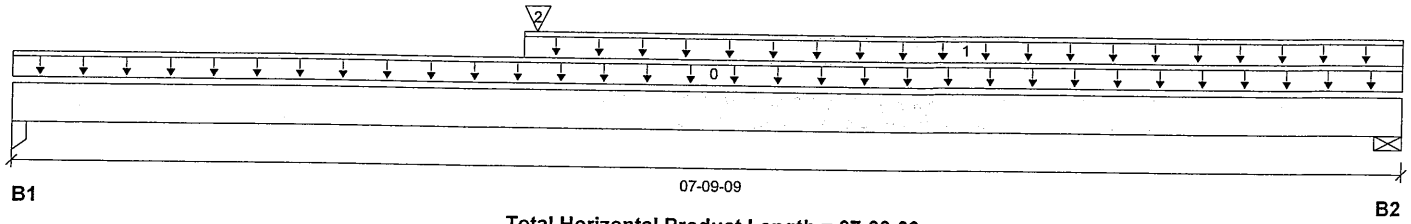
1ST FLR FRAMING\Flush Beams\B7(i1593) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B7(i1593)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 07-09-09

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	269 / 0	165 / 0		
B2, 4-3/8"	231 / 0	143 / 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	07-09-09	Top		6			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	02-10-00	07-09-09	Top	28	14			n\a
2	B6(i1476)	Conc. Pt. (lbs)	L	02-10-14	02-10-14	Top	359	191			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1603 ft-lbs	15528 ft-lbs	10.3%	1	02-10-15
End Shear	600 lbs	7232 lbs	8.3%	1	01-03-06
Total Load Deflection	L/999 (0.019")	n\a	n\a	4	03-08-03
Live Load Deflection	L/999 (0.012")	n\a	n\a	5	03-08-03
Max Defl.	0.019"	n\a	n\a	4	03-08-03
Span / Depth	7.3				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	3-1/2" x 1-3/4"	610 lbs	12.3%	8.2%	Unspecified
B2	Wall/Plate	4-3/8" x 1-3/4"	525 lbs	11.2%	5.6%	Spruce-Pine-Fir

DWG NO. TAM 17989-21
STRUCTURAL
COMPONENT ONLY

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 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9
Calculations assume unbraced length of Top: 02-06-08, Bottom: 04-05-07.

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® ,

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

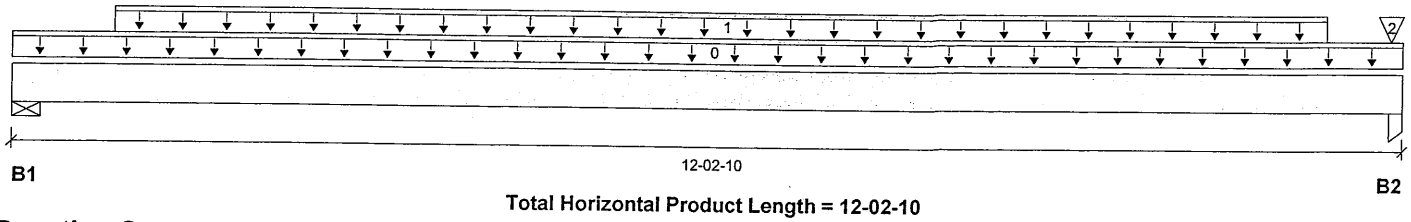
1ST FLR FRAMING\Flush Beams\B8(i1505) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B8(i1505)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 12-02-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	832 / 0	491 / 0		
B2, 1-3/4"	936 / 0	540 / 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	12-02-10	Top		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-10-10	11-06-10	Top	156	78			n\a
2	J5(i1497)	Conc. Pt. (lbs)	L	12-01-06	12-01-06	Top	104	52			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6008 ft-lbs	35392 ft-lbs	17.0%	1	06-02-10
End Shear	1841 lbs	14464 lbs	12.7%	1	01-04-04
Total Load Deflection	L/999 (0.11")	n\a	n\a	4	06-02-10
Live Load Deflection	L/999 (0.07")	n\a	n\a	5	06-02-10
Max Defl.	0.11"	n\a	n\a	4	06-02-10
Span / Depth	12.0				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 3-1/2"	1862 lbs	19.8%	10.0%	Spruce-Pine-Fir
B2	Column	1-3/4" x 3-1/2"	2079 lbs	41.8%	27.8%	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

LICENSED PROFESSIONAL ENGINEER
S. KATSOULEAKOS
PROVINCE OF ONTARIO

P6 of 6

DWG NO. TAM 179 90 21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

1ST FLR FRAMING\Flush Beams\B8(i1505) (Flush Beam)

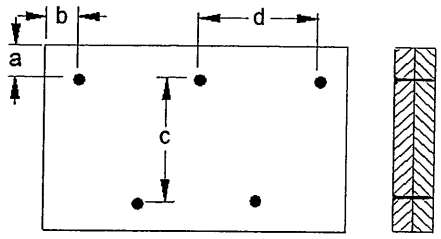
Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B8(i1505)
Specifier:
Designer:
Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"
c = 7-7/8"
d = 8"

Calculated Side Load = 442.0 lb/ft
Connectors are: 16d 1 Nails

3½" ARDOX SPIRAL

DWG NO. TAM 17440-2L
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® ,

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

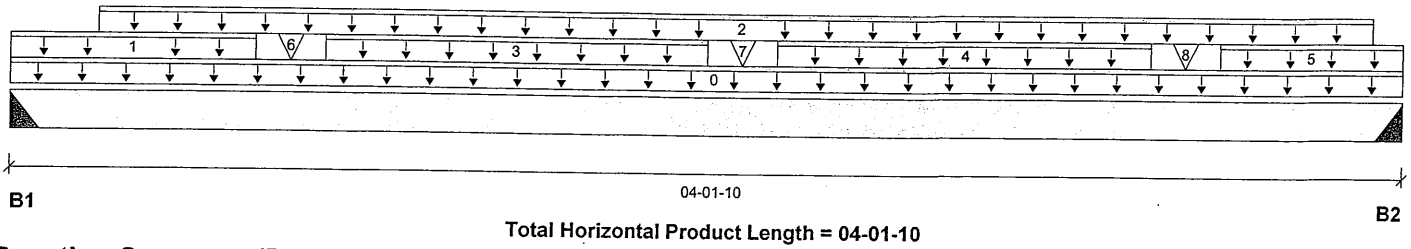
2ND FLR FRAMING\Dropped Beams\B16 DR(i1753) (Dropped Beam)

Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

July 14, 2021 08:21:37

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Dropped Beams\B16 DR(i1753)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 04-01-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	528 / 0	282 / 0		
B2, 2"	601 / 0	318 / 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	04-01-10	Top		10			00-00-00
1	Bk2(i1018)	Unf. Lin. (lb/ft)	L	00-00-00	00-08-09	Top	29	14			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-03-01	04-00-09	Top	5	2			n\a
3	Bk2(i1885)	Unf. Lin. (lb/ft)	L	00-11-01	02-00-09	Top	25	12			n\a
4	Bk2(i1886)	Unf. Lin. (lb/ft)	L	02-03-01	03-04-09	Top	25	12			n\a
5	Bk2(i1887)	Unf. Lin. (lb/ft)	L	03-07-01	04-01-10	Top	25	12			n\a
6	J3(i1792)	Conc. Pt. (lbs)	L	00-09-13	00-09-13	Top	307	153			n\a
7	J3(i1791)	Conc. Pt. (lbs)	L	02-01-13	02-01-13	Top	357	178			n\a
8	J3(i1790)	Conc. Pt. (lbs)	L	03-05-13	03-05-13	Top	357	178			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1308 ft-lbs	23219 ft-lbs	5.6%	1	02-01-13
End Shear	1003 lbs	11571 lbs	8.7%	1	00-11-08
Total Load Deflection	L/999 (0.005")	n\a	n\a	4	02-01-03
Live Load Deflection	L/999 (0.003")	n\a	n\a	5	02-01-03
Max Defl.	0.005"	n\a	n\a	4	02-01-03
Span / Depth	5.0				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 3-1/2"	1143 lbs	n\a	13.4%	HUC410
B2	Hanger	2" x 3-1/2"	1300 lbs	n\a	15.2%	HUC410

Cautions

Header for the hanger HUC410 is a Double 1-3/4" x 11-7/8" LVL Beam.
Hanger model HUC410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.
Header for the hanger HUC410 is a Triple 1-3/4" x 11-7/8" LVL Beam.

OK

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM 1991-21
STRUCTURAL
COMPONENT ONLY

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

PASSED

2ND FLR FRAMING\Dropped Beams\B16 DR(i1753) (Dropped Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

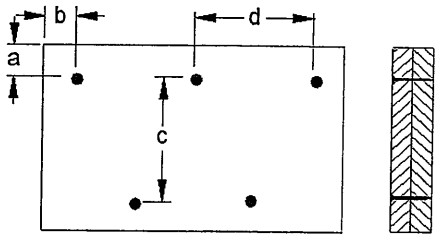
File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Dropped Beams\B16 DR(i1753)
Specifier:
Designer:
Company:

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: 01-01-08, Bottom: 04-01-10.

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
3½" ARDOX SPIRAL

DWG NO. TAM 17991-21
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® ,

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

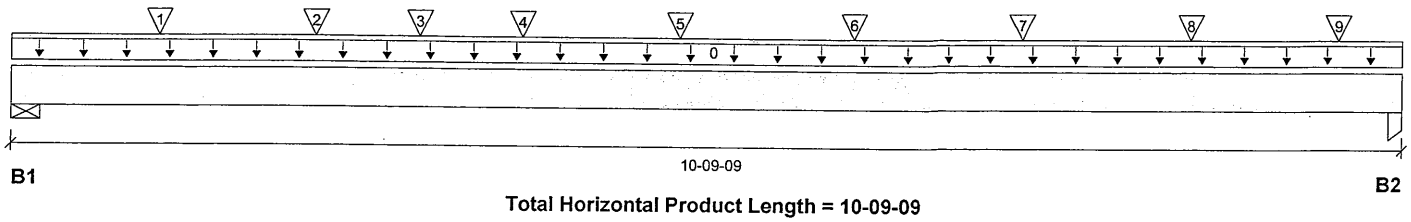
2ND FLR FRAMING\Dropped Beams\B9 DR(i1732) (Dropped Beam)

Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

July 14, 2021 08:21:37

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Dropped Beams\B9 DR(i1732)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 10-09-09

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	3036 / 0	1583 / 0		
B2, 2-5/8"	3251 / 0	1690 / 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	10-09-09	Top		12			00-00-00
1	-	Conc. Pt. (lbs)	L	01-01-09	01-01-09	Top	727	363			n\a
2	-	Conc. Pt. (lbs)	L	02-04-01	02-04-01	Top	723	361			n\a
3	J3(i1927)	Conc. Pt. (lbs)	L	03-01-09	03-01-09	Top	270	135			n\a
4	-	Conc. Pt. (lbs)	L	03-11-01	03-11-01	Top	723	361			n\a
5	-	Conc. Pt. (lbs)	L	05-01-09	05-01-09	Top	767	383			n\a
6	-	Conc. Pt. (lbs)	L	06-05-09	06-05-09	Top	812	406			n\a
7	-	Conc. Pt. (lbs)	L	07-09-09	07-09-09	Top	812	406			n\a
8	-	Conc. Pt. (lbs)	L	09-01-09	09-01-09	Top	755	378			n\a
9	-	Conc. Pt. (lbs)	L	10-03-10	10-03-10	Top	698	350			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	17266 ft-lbs	35392 ft-lbs	48.8%	1	05-01-09
End Shear	6016 lbs	14464 lbs	41.6%	1	01-05-06
Total Load Deflection	L/523 (0.235")	n\a	45.9%	4	05-05-09
Live Load Deflection	L/795 (0.155")	n\a	45.3%	5	05-05-09
Max Defl.	0.235"	n\a	n\a	4	05-05-09
Span / Depth	10.4				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	6533 lbs	25.4%	27.8%	Spruce-Pine-Fir
B2	Column	2-5/8" x 3-1/2"	6989 lbs	93.7%	62.4%	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: 01-02-12, Bottom: 10-04-01.

CONFORMS TO OBC 2012
AMENDED 2020

P6 4

DWG NO. TAM17992-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

2ND FLR FRAMING\Dropped Beams\B9 DR(i1732) (Dropped Beam)

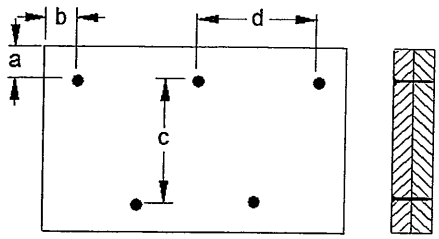
Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Dropped Beams\B9 DR(i1732)
Specifier:
Designer:
Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"
c = 7-7/8"
d = B

Connectors are: 1 Nails

3½" ARDOX SPIRAL

DWG NO. TAM 17992-2L
STRUCTURAL
COMPONENT ONLY

Disclosure

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Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

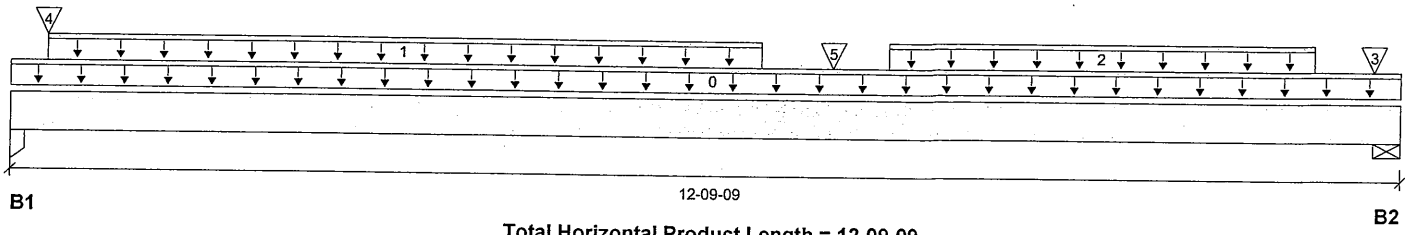
2ND FLR FRAMING\Flush Beams\B10 DR(i1645) (Flush Beam)

Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

July 14, 2021 08:21:37

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B10 DR(i1645)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 12-09-09

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	3810 / 0	2018 / 0		
B2, 5-1/2"	4221 / 0	2245 / 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	12-09-09	Top		18			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-04-00	06-10-00	Top	593	296			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	08-00-00	12-00-00	Top	612	306			n\a
3	B16 DR(i1753)	Conc. Pt. (lbs)	L	12-06-09	12-06-09	Top	628	331			n\a
4	J1(i1913)	Conc. Pt. (lbs)	L	00-04-00	00-04-00	Top	341	170			n\a
5	-	Conc. Pt. (lbs)	L	07-05-15	07-05-15	Top	759	380			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	24990 ft-lbs	55211 ft-lbs	45.3%	1	06-04-00
End Shear	7490 lbs	21696 lbs	34.5%	1	11-04-03
Total Load Deflection	L/454 (0.324")	n\a	52.9%	4	06-04-00
Live Load Deflection	L/694 (0.212")	n\a	51.8%	5	06-04-00
Max Defl.	0.324"	n\a	n\a	4	06-04-00
Span / Depth	12.4				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	2-5/8" x 5-1/4"	8237 lbs	73.6%	49.0%	Unspecified
B2	Wall/Plate	5-1/2" x 5-1/4"	9138 lbs	23.7%	25.9%	Spruce-Pine-Fir

Cautions

Concentrated side load(s) 21 are closer than 18" from end of member. Please consult a technical representative or Professional of Record. OKG

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 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9
Calculations assume unbraced length of Top: 00-10-12, Bottom: 12-04-01.

CONFORMS TO OBC 2012
AMENDED 2020

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM17993-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

2ND FLR FRAMING\Flush Beams\B10 DR(i1645) (Flush Beam)

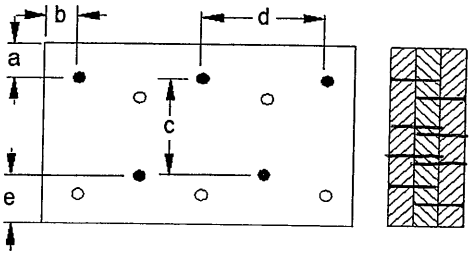
Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

July 14, 2021 08:21:37

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B10 DR(i1645)
Specifier:
Designer:
Company:

Connection Diagram: Full Length of Member



4 rows

a minimum = 1"
b minimum = 3"
c = 8-7/8"
d = 8 1/
e minimum = 2"

Nailing applies to both sides of the member
Connectors are: 1 Nails

3½" ARDOX SPIRAL

DWG NO. YAM 1799321
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.

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

PASSED

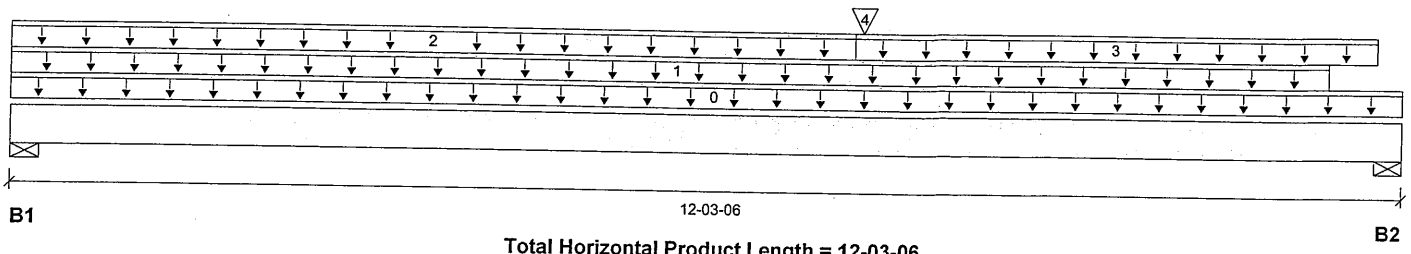
2ND FLR FRAMING\Flush Beams\B11(i1608) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B11(i1608)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 12-03-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	319 / 0	201 / 0		
B2, 5-1/2"	458 / 0	274 / 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	12-03-06	Top		6			00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	11-07-09	Top	23	11			n\a
2	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	07-04-06	Top	3	2			n\a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	07-04-06	12-00-10	Top	25	13			n\a
4	B12(i1629)	Conc. Pt. (lbs)	L	07-05-04	07-05-04	Top	376	200			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3504 ft-lbs	17696 ft-lbs	19.8%	1	07-05-04
End Shear	954 lbs	7232 lbs	13.2%	1	10-10-00
Total Load Deflection	L/999 (0.107")	n\a	n\a	4	06-05-02
Live Load Deflection	L/999 (0.067")	n\a	n\a	5	06-05-02
Max Defl.	0.107"	n\a	n\a	4	06-05-02
Span / Depth	11.7				

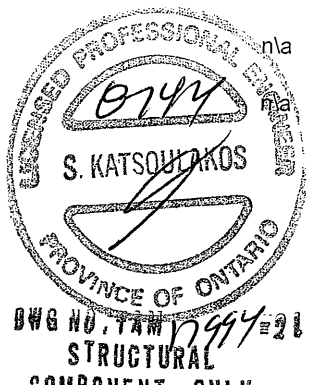
Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 1-3/4"	729 lbs	15.5%	7.8%	Spruce-Pine-Fir
B2	Wall/Plate	5-1/2" x 1-3/4"	1030 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 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9
Calculations assume unbraced length of Top: 00-00-00, Bottom: 07-00-00.

CONFORMS TO OBC 2012
AMENDED 2020



DWG NO. TAM 1994-21

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.

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

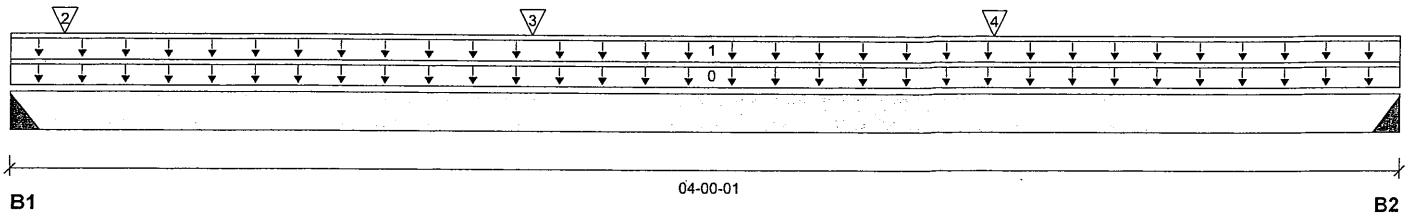
2ND FLR FRAMING\Flush Beams\B12(i1629) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B12(i1629)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 04-00-01

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	461 / 0	242 / 0		
B2, 2"	376 / 0	200 / 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	04-00-01	Top		6			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	04-00-01	Top	120	60			n\a
2	J6(i1809)	Conc. Pt. (lbs)	L	00-01-13	00-01-13	Top	103	51			n\a
3	J6(i1808)	Conc. Pt. (lbs)	L	01-05-13	01-05-13	Top	129	64			n\a
4	J6(i1807)	Conc. Pt. (lbs)	L	02-09-13	02-09-13	Top	125	63			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	806 ft-lbs	17696 ft-lbs	4.6%	1	01-10-13
End Shear	512 lbs	7232 lbs	7.1%	1	02-10-03
Total Load Deflection	L/999 (0.003")	n\a	n\a	4	02-00-05
Live Load Deflection	L/999 (0.002")	n\a	n\a	5	02-00-05
Max Defl.	0.003"	n\a	n\a	4	02-00-05
Span / Depth	3.8				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	994 lbs	n\a	23.3%	LS90
B2	Hanger	2" x 1-3/4"	815 lbs	n\a	19.1%	HUS1.81/10

Cautions

Header for the hanger LS90 is a Double 1-3/4" x 11-7/8" LVL Beam.
Hanger model LS90 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.
Header for the hanger HUS1.81/10 is a Single 1-3/4" x 11-7/8" LVL Beam.
Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

OWG NO. TAM 17995-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

2ND FLR FRAMING\Flush Beams\B12(i1629) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B12(i1629)
Specifier:
Designer:
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: 01-01-08.

CONFORMS TO OBC 2012
AMENDED 2020

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

BWG NO. TAM 17995-21
STRUCTURAL
COMPONENT ONLY

Disclosure

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

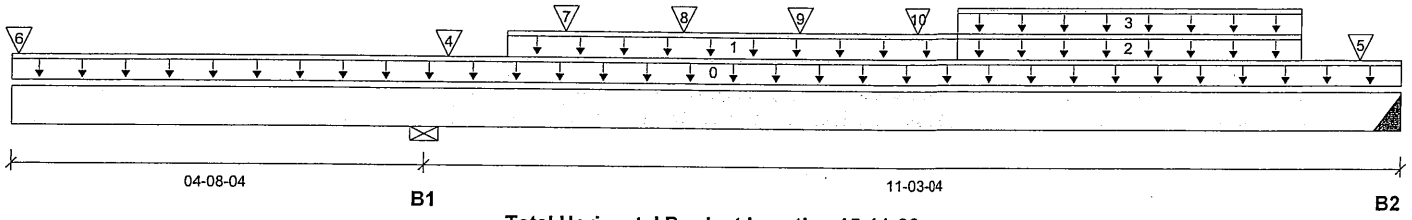
2ND FLR FRAMING\Flush Beams\B13(i1618) (Flush Beam)

Dry | 2 spans | L cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B13(i1618)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 15-11-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	2352 / 0	1328 / 0		
B2, 4"	1855 / 200	883 / 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	15-11-08	Top		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	05-07-08	10-09-08	Top	194	97			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	10-09-08	14-09-08	Top	188	94			n\a
3	Smoothed Load	Unf. Lin. (lb/ft)	L	10-09-08	14-09-08	Top	145	73			n\a
4	J4(i1822)	Conc. Pt. (lbs)	L	04-11-08	04-11-08	Top	170	85			n\a
5	-	Conc. Pt. (lbs)	L	15-05-12	15-05-12	Top	301	151			n\a
6	B12(i1629)	Conc. Pt. (lbs)	L	00-00-14	00-00-14	Top	462	242			n\a
7	J5(i1813)	Conc. Pt. (lbs)	L	06-03-08	06-03-08	Top	165	83			n\a
8	J5(i1812)	Conc. Pt. (lbs)	L	07-07-08	07-07-08	Top	188	94			n\a
9	J5(i1951)	Conc. Pt. (lbs)	L	08-11-08	08-11-08	Top	194	97			n\a
10	J5(i1810)	Conc. Pt. (lbs)	L	10-03-08	10-03-08	Top	169	85			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	10043 ft-lbs	35392 ft-lbs	28.4%	3	10-03-08
Neg. Moment	-4897 ft-lbs	-32276 ft-lbs	15.2%	1	04-08-04
End Shear	3320 lbs	14464 lbs	23.0%	3	14-07-10
Cont. Shear	3697 lbs	14464 lbs	25.6%	1	05-10-14
Total Load Deflection	L/869 (0.152")	n\a	27.6%	10	10-03-08
Live Load Deflection	2xL/756 (-0.149")	n\a	47.6%	13	00-00-00
Total Neg. Defl.	2xL/647 (-0.174")	n\a	37.1%	10	00-00-00
Max Defl.	0.152"	n\a	n\a	10	10-03-08
Span / Depth	11.1				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	5188 lbs	43.8%	22.1%	Spruce-Pine-Fir
B2	Hanger	4" x 3-1/2"	3886 lbs	n\a	22.8%	HGUS410

Cautions

Header for the hanger HGUS410 is a Double 1-3/4" x 11-7/8" LVL Beam.
Hanger model HGUS410 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.
Long Cantilever: Sheathing required on bottom flange and adjacent back span or bracing designed by the design professional of record. Design professional of record must address uplift at supports.

0149

LICENSED PROFESSIONAL ENGINEER
0149
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM17996-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

2ND FLR FRAMING\Flush Beams\B13(i1618) (Flush Beam)

Dry | 2 spans | L cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

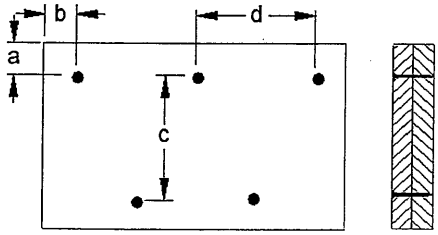
File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B13(i1618)
Specifier:
Designer:
Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets User specified (2xL/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
Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.
Calculations assume unbraced length of Top: 00-00-00, Bottom: 04-03-12.

CONFORMS TO OBC 2012
AMENDED 2020

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"
c = 7-7/8"
d = 8"

Calculated Side Load = 531.3 lb/ft
Connectors are: Nails
3½" ARDOX SPIRAL

LICENSED PROFESSIONAL ENGINEERS
S. KATSOULAROS
PROVINCE OF ONTARIO

DWG NO. TAM 17496-21
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® ,

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

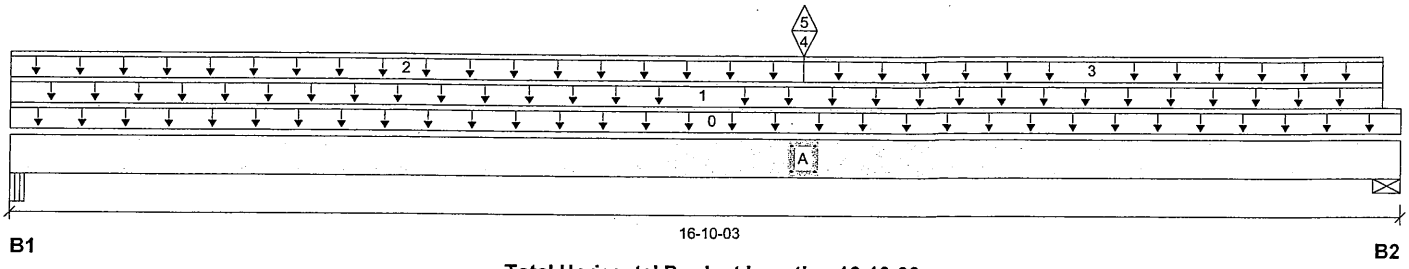
2ND FLR FRAMING\Flush Beams\B14(i1764) (Flush Beam)

Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

July 14, 2021 08:21:37

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B14(i1764)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 16-10-03

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-1/8"	920 / 85	541 / 0		
B2, 5-1/2"	1200 / 113	676 / 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	16-10-03	Top		12			00-00-00
1	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	16-07-07	Top	7	3			n\a
2	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	09-06-01	Top	10	5			n\a
3	FC3 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	09-06-01	16-07-07	Top	16	8			n\a
4	B13(i1618)	Conc. Pt. (lbs)	L	09-06-01	09-06-01	Top	1806	858			n\a
5	B13(i1618)	Conc. Pt. (lbs)	L	09-06-01	09-06-01	Top	-198				n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	16754 ft-lbs	35392 ft-lbs	47.3%	1	09-06-01
End Shear	2565 lbs	14464 lbs	17.7%	1	15-04-13
Total Load Deflection	L/415 (0.467")	n\a	57.8%	6	08-08-14
Live Load Deflection	L/639 (0.304")	n\a	56.3%	8	08-08-14
Max Defl.	0.467"	n\a	n\a	6	08-08-14
Span / Depth	16.3				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam	4-1/8" x 3-1/2"	2056 lbs	26.7%	11.7%	Unspecified
B2	Wall/Plate	5-1/2" x 3-1/2"	2645 lbs	22.3%	11.3%	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 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9
Calculations assume unbraced length of Top: 00-00-00, Bottom: 09-00-03.

CONFORMS TO OBC 2012
AMENDED 2020

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM 17997-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

2ND FLR FRAMING\Flush Beams\B14(i1764) (Flush Beam)

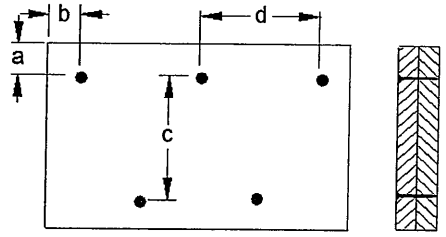
Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B14(i1764)
Specifier:
Designer:
Company:

Connection Diagram: Full Length of Member

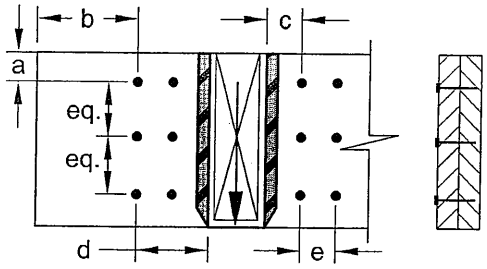


a minimum = 2"
b minimum = 3"
c = 7-7/8"
d = 8"

Connectors are: 1 Nails
3½" ARDOX SPIRAL

Connection Diagrams: Concentrated Side Loads

Connection Tag: A Applies to load tag(s): 3+4



a minimum = 2"
b minimum = 4"
c minimum = 4"
d maximum = 12"
e minimum = 4"
Connectors are: 16d 1 Nails
3½" ARDOX SPIRAL

DWG NO. TAM N992-21
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® ,

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

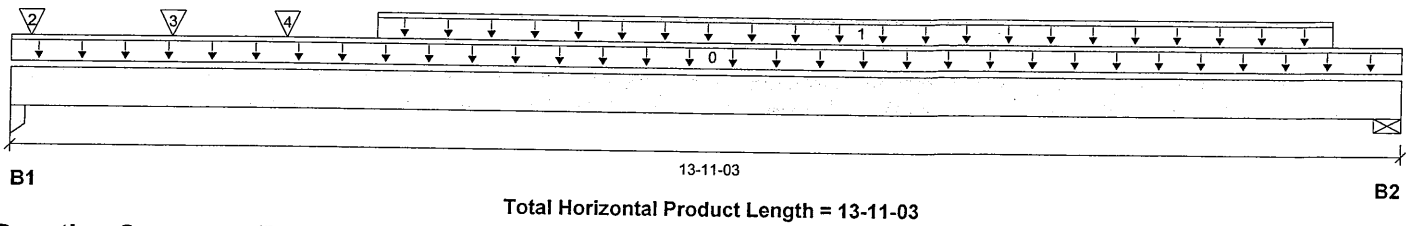
2ND FLR FRAMING\Flush Beams\B15 DR(i1767) (Flush Beam)

Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B15 DR(i1767)
Specifier:
Designer:
Company:



Total Horizontal Product Length = 13-11-03

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	2438 / 0	1319 / 0		
B2, 5-1/2"	1708 / 0	939 / 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	13-11-03	Top		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	03-07-09	13-02-13	Top	262	131			n\a
2	-	Conc. Pt. (lbs)	L	00-02-05	00-02-05	Top	833	434			n\a
3	J3(i1793)	Conc. Pt. (lbs)	L	01-07-03	01-07-03	Top	306	153			n\a
4	J3(i1884)	Conc. Pt. (lbs)	L	02-08-13	02-08-13	Top	265	132			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	12908 ft-lbs	35392 ft-lbs	36.5%	1	06-08-12
End Shear	3537 lbs	14464 lbs	24.5%	1	12-05-13
Total Load Deflection	L/537 (0.297")	n\a	44.7%	4	06-10-01
Live Load Deflection	L/830 (0.192")	n\a	43.4%	5	06-10-01
Max Defl.	0.297"	n\a	n\a	4	06-10-01
Span / Depth	13.4				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	3-1/2" x 3-1/2"	5306 lbs	53.3%	35.5%	Unspecified
B2	Wall/Plate	5-1/2" x 3-1/2"	3737 lbs	14.5%	15.9%	Spruce-Pine-Fir

Cautions

Concentrated side load(s) 1 are closer than 18" from end of member. Please consult a technical representative or Professional of Record.

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: 01-01-08, Bottom: 13-02-03.

CONFORMS TO OBC 2012
AMENDED 2020

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM 19998-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

2ND FLR FRAMING\Flush Beams\B15 DR(i1767) (Flush Beam)

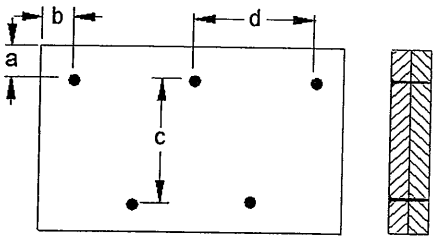
Dry | 1 span | No cant.

July 14, 2021 08:21:37

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Flush Beams\B15 DR(i1767)
Specifier:
Designer:
Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"
c = 7-7/8"
d = 8"

Connectors are: 1 Nails
3½" ARDOX SPIRA

PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

OWG NO. TAM 1799821
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.

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

1ST FLR FRAMING\Flush Beams\B18A(i2128) (Flush Beam)

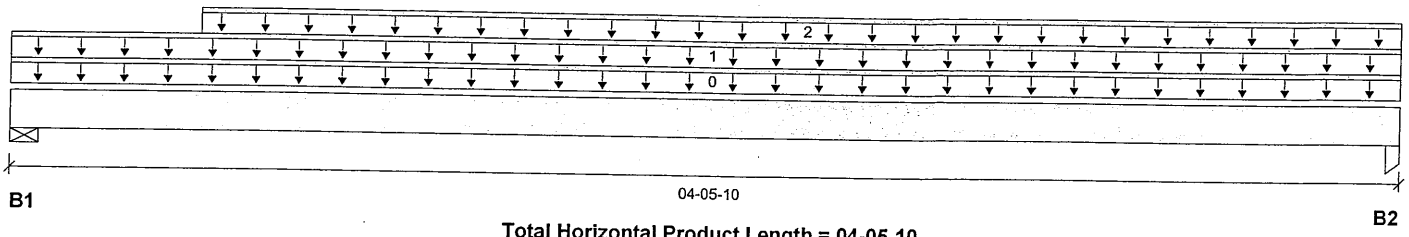
Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773

July 14, 2021 08:58:10

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

File name: 40-5 EL A OPT..mmdl
Description: 1ST FLR FRAMING\Flush Beams\B18A(i2128)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 04-05-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	194 / 0	248 / 0		
B2, 3-1/2"	282 / 0	287 / 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	04-05-10	Top		6			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	04-05-10	Top		60			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	00-07-04	04-05-10	Top	123	62			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	649 ft-lbs	17696 ft-lbs	3.7%	1	02-01-04
End Shear	424 lbs	7232 lbs	5.9%	1	01-04-04
Total Load Deflection	L/999 (0.003")	n\a	n\a	4	02-03-02
Live Load Deflection	L/999 (0.001")	n\a	n\a	5	02-03-02
Max Defl.	0.003"	n\a	n\a	4	02-03-02
Span / Depth	4.0				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 1-3/4"	600 lbs	12.7%	6.4%	Spruce-Pine-Fir
B2	Column	3-1/2" x 1-3/4"	783 lbs	15.7%	10.5%	Unspecified

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM 17999-21
STRUCTURAL
COMPONENT ONLY

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 086.
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

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.

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

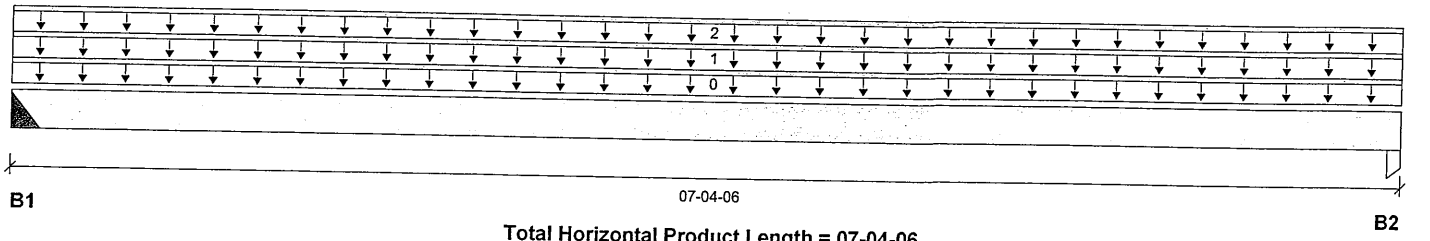
1ST FLR FRAMING\Flush Beams\B19A(i2129) (Flush Beam)

Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code: BRAMPTON
Customer:
Code reports: CCMC 12472-R

July 14, 2021 08:58:10

File name: 40-5 EL A OPT..mmdl
Description: 1ST FLR FRAMING\Flush Beams\B19A(i2129)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 07-04-06

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	58 / 0	273 / 0		
B2, 1-3/4"	57 / 0	271 / 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	07-04-06	Top		6			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-00-00	07-04-06	Top		60			n\a
2	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	07-04-06	Top	16	8			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	665 ft-lbs	11502 ft-lbs	5.8%	0	03-08-05
End Shear	262 lbs	4701 lbs	5.6%	0	01-01-14
Total Load Deflection	L/999 (0.011")	n\a	n\a	4	03-08-05
Live Load Deflection	L/999 (0.002")	n\a	n\a	5	03-08-05
Max Defl.	0.011"	n\a	n\a	4	03-08-05
Span / Depth	7.3				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	382 lbs	n\a	13.7%	HUS1.81/10
B2	Column	1-3/4" x 1-3/4"	379 lbs	23.5%	15.6%	Unspecified

Cautions

Header for the hanger HUS1.81/10 is a Triple 1-3/4" x 11-7/8" 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: 07-04-06.

CONFORMS TO OBC 2012
AMENDED 2020

REGISTERED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM/18000-21
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 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

2ND FLR FRAMING\Dropped Beams\B9A DR(i2146) (Dropped Beam)

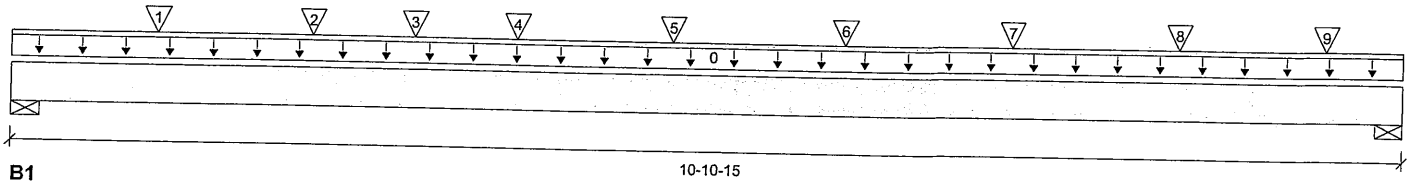
Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773

July 14, 2021 08:58:10

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

File name: 40-5 EL A OPT..mmdl
Description: 2ND FLR FRAMING\Dropped Beams\B9A DR(i2146)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 10-10-15

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	3036 / 0	1583 / 0		
B2, 4"	3251 / 0	1691 / 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	10-10-15	Top		12			00-00-00
1	-	Conc. Pt. (lbs)	L	01-01-09	01-01-09	Top	727	363			n\a
2	-	Conc. Pt. (lbs)	L	02-04-01	02-04-01	Top	723	361			n\a
3	J3(i2142)	Conc. Pt. (lbs)	L	03-01-09	03-01-09	Top	270	135			n\a
4	-	Conc. Pt. (lbs)	L	03-11-01	03-11-01	Top	723	361			n\a
5	-	Conc. Pt. (lbs)	L	05-01-09	05-01-09	Top	767	383			n\a
6	-	Conc. Pt. (lbs)	L	06-05-09	06-05-09	Top	812	406			n\a
7	-	Conc. Pt. (lbs)	L	07-09-09	07-09-09	Top	812	406			n\a
8	-	Conc. Pt. (lbs)	L	09-01-09	09-01-09	Top	755	378			n\a
9	-	Conc. Pt. (lbs)	L	10-03-10	10-03-10	Top	698	350			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	17266 ft-lbs	35392 ft-lbs	48.8%	1	05-01-09
End Shear	6016 lbs	14464 lbs	41.6%	1	01-05-06
Total Load Deflection	L/523 (0.235")	n\a	45.9%	4	05-05-09
Live Load Deflection	L/795 (0.155")	n\a	45.3%	5	05-05-09
Max Defl.	0.235"	n\a	n\a	4	05-05-09
Span / Depth	10.4				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	5-1/2" x 3-1/2"	6533 lbs	25.4%	27.8%	Spruce-Pine-Fir
B2	Wall/Plate	4" x 3-1/2"	6991 lbs	37.4%	40.9%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9
Calculations assume unbraced length of Top: 01-02-12, Bottom: 10-05-07.

CONFORMS TO OBC 2012
AMENDED 2020

LICENSED PROFESSIONAL ENGINEERS
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM/8001-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

2ND FLR FRAMING\Dropped Beams\B9A DR(i2146) (Dropped Beam)

Dry | 1 span | No cant.

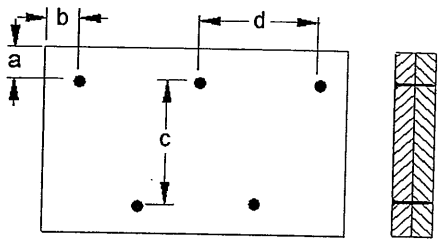
BC CALC® Member Report
Build 7773

July 14, 2021 08:58:10

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

File name: 40-5 EL A OPT..mmdl
Description: 2ND FLR FRAMING\Dropped Beams\B9A DR(i2146)
Specifier:
Designer: AJ
Company:

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"
c = 7-7/8"
d = 6"

Connectors are: 1 Nails
3½" ARDOX SPIRAL

DWG NO. YAM 1801-21
STRUCTURAL
COMPONENT ONLY

Disclosure

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

PASSED

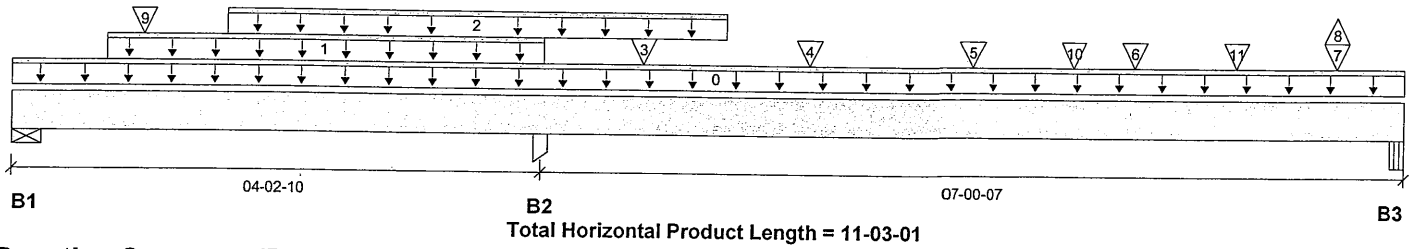
1ST FLR FRAMING\Flush Beams\B1(i2493) (Flush Beam)

Dry | 2 spans | No cant.

August 10, 2021 10:10:10

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code: BRAMPTON
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B1(i2493)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 11-03-01

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	555 / 338	206 / 0		
B2, 3-1/2"	2685 / 0	1568 / 0		
B3, 9-1/4"	6065 / 74	3204 / 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	11-03-01	Top		12			00-00-00
1	WALL	Unf. Lin. (lb/ft)	L	00-08-14	04-02-14	Top		60			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-08-07	05-08-07	Top	343	171			n\a
3	J6(i2427)	Conc. Pt. (lbs)	L	05-00-07	05-00-07	Top	94				n\a
4	-	Conc. Pt. (lbs)	L	06-04-07	06-04-07	Top	576	287			n\a
5	-	Conc. Pt. (lbs)	L	07-08-07	07-08-07	Top	513	256			n\a
6	J6(i2414)	Conc. Pt. (lbs)	L	09-00-07	09-00-07	Top	119	59			n\a
7	-	Conc. Pt. (lbs)	L	10-08-07	10-08-07	Top	4959	2653			n\a
8	-	Conc. Pt. (lbs)	L	10-08-07	10-08-07	Top	-32				n\a
9	J1(i2411)	Conc. Pt. (lbs)	L	01-00-07	01-00-07	Top	410	205			n\a
10	J2(i2430)	Conc. Pt. (lbs)	L	08-06-07	08-06-07	Top	348	174			n\a
11	J2(i2416)	Conc. Pt. (lbs)	L	09-10-07	09-10-07	Top	336	168			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3302 ft-lbs	35392 ft-lbs	9.3%	4	07-08-07
Neg. Moment	-3478 ft-lbs	-35392 ft-lbs	9.8%	1	04-02-10
End Shear	1775 lbs	14464 lbs	12.3%	4	09-05-15
Cont. Shear	2899 lbs	14464 lbs	20.0%	1	05-04-04
Total Load Deflection	L/999 (0.014")	n\a	n\a	13	07-07-07
Live Load Deflection	L/999 (0.01")	n\a	n\a	17	07-07-07
Total Neg. Defl.	L/999 (-0.003")	n\a	n\a	13	02-08-12
Max Defl.	0.014"	n\a	n\a	13	07-07-07
Span / Depth	6.4				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 3-1/2"	1090 lbs	11.6%	5.8%	Spruce-Pine-Fir
B1	Uplift		321 lbs			
B2	Column	3-1/2" x 3-1/2"	5988 lbs	60.2%	40.1%	Unspecified
B3	Beam	9-1/4" x 3-1/2"	13103 lbs	75.8%	33.2%	Unspecified

Cautions

Uplift of 321 lbs found at bearing B1. (SIMPSON 2-H2.5A C p.31)

LICENSED PROFESSIONAL ENGINEERS
0144
S. KATSOULAKOS
PROVINCE OF ONTARIO

p6/4

DWG NO. TAM/B002-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

1ST FLR FRAMING\Flush Beams\B1(i2493) (Flush Beam)

Dry | 2 spans | No cant.

August 10, 2021 10:10:10

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code: BRAMPTON
Customer:
Code reports: CCMC 12472-R

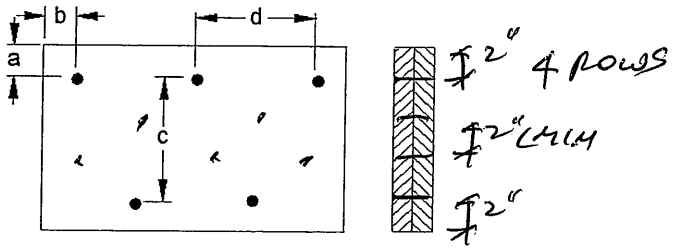
File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B1(i2493)
Specifier:
Designer: AJ
Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 3"
c = 7-7/8"
d = 8 4

Calculated Side Load = 970.5 lb/ft
Connectors are: Nails

3½" ARDOX SPIRAL

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM 18003-21
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® ,

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

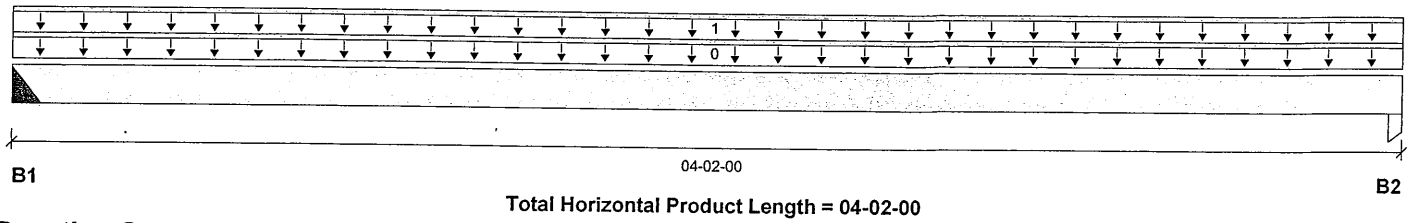
1ST FLR FRAMING\Flush Beams\B18(i2423) (Flush Beam)

Dry | 1 span | No cant.

August 10, 2021 10:10:10

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code: BRAMPTON
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B18(i2423)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 04-02-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	34 / 0	30 / 0		
B2, 1-3/4"	34 / 0	29 / 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	04-02-00	Top		6			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	04-02-00	Top	16	8			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	84 ft-lbs	17696 ft-lbs	0.5%	1	02-01-02
End Shear	40 lbs	7232 lbs	0.5%	1	01-01-14
Total Load Deflection	L/999 (0")	n\a	n\a	4	02-01-02
Live Load Deflection	L/999 (0")	n\a	n\a	5	02-01-02
Max Defl.	0"	n\a	n\a	4	02-01-02
Span / Depth	4.0				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	89 lbs	n\a	2.1%	HUS1.81/10
B2	Column	1-3/4" x 1-3/4"	88 lbs	3.5%	2.3%	Unspecified

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

OWG NO. 21AM180003-21
STRUCTURAL COMPONENT ONLY

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" 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: 04-02-00.

CONFORMS TO OBC 2012
AMENDED 2020

Disclosure

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

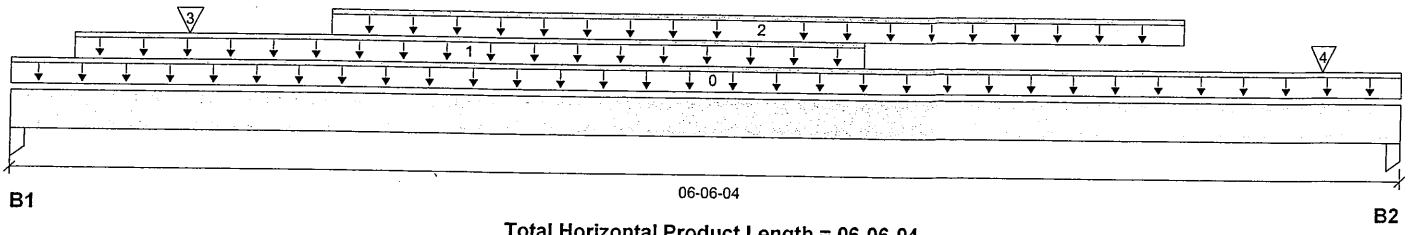
1ST FLR FRAMING\Flush Beams\B19(i2419) (Flush Beam)

Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code: BRAMPTON
Customer:
Code reports: CCMC 12472-R

August 10, 2021 10:10:10

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B19(i2419)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 06-06-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	566 / 0	302 / 0		
B2, 1-3/4"	406 / 0	222 / 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	06-06-04	Top		6			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-03-08	03-11-08	Top	120	60			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-05-13	05-05-13	Top	89	44			n\a
3	J6(i2427)	Conc. Pt. (lbs)	L	00-09-13	00-09-13	Top	96	48			n\a
4	J6(i2412)	Conc. Pt. (lbs)	L	06-01-13	06-01-13	Top	79	40			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1779 ft-lbs	17696 ft-lbs	10.1%	1	03-02-13
End Shear	870 lbs	7232 lbs	12.0%	1	01-03-06
Total Load Deflection	L/999 (0.017")	n\a	n\a	4	03-02-13
Live Load Deflection	L/999 (0.011")	n\a	n\a	5	03-02-13
Max Defl.	0.017"	n\a	n\a	4	03-02-13
Span / Depth	6.3				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column	3-1/2" x 1-3/4"	1227 lbs	24.7%	16.4%	Unspecified
B2	Column	1-3/4" x 1-3/4"	886 lbs	35.6%	23.7%	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

LICENCED PROFESSIONAL ENGINEER
S. KATSOULAKOS
0141
PROVINCE OF ONTARIO

DWG NO. YAM 10004-21
STRUCTURAL
COMPONENT ONLY

Disclosure

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Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

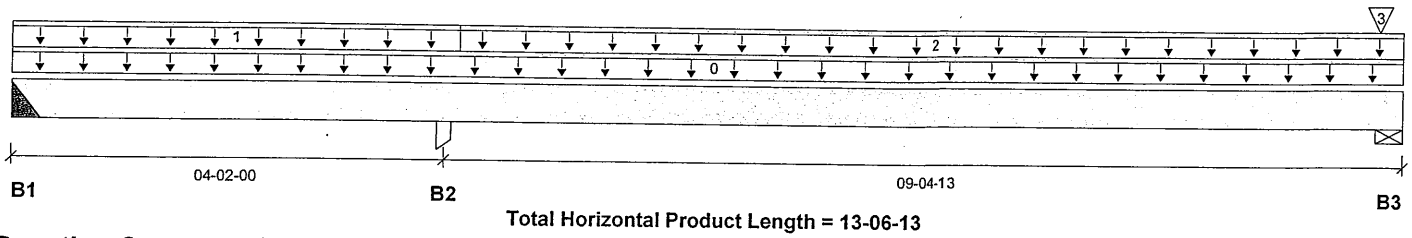
1ST FLR FRAMING\Flush Beams\B2(i2429) (Flush Beam)

Dry | 2 spans | No cant.

August 10, 2021 10:10:10

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code: BRAMPTON
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B2(i2429)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 13-06-13

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	53 / 33	11 / 0		
B2, 3-1/2"	196 / 0	154 / 0		
B3, 5-1/2"	79 / 2	75 / 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	13-06-13	Top		6			00-00-00
1	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	00-00-00	04-03-12	Top	27	13			n\a
2	FC2 Floor Decking (Plan View Fill)	Unf. Lin. (lb/ft)	L	04-03-12	13-06-13	Top	19	10			n\a
3	E10(i419)	Conc. Pt. (lbs)	L	13-04-01	13-04-01	Top		12			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	330 ft-lbs	17696 ft-lbs	1.9%	3	09-05-08
Neg. Moment	-379 ft-lbs	-5656 ft-lbs	6.7%	1	04-02-00
End Shear	128 lbs	7232 lbs	1.8%	3	12-01-07
Cont. Shear	205 lbs	7232 lbs	2.8%	1	05-03-10
Total Load Deflection	L/999 (0.006")	n\a	n\a	10	09-01-10
Live Load Deflection	L/999 (0.003")	n\a	n\a	13	09-00-06
Total Neg. Defl.	L/999 (-0.001")	n\a	n\a	10	02-06-12
Max Defl.	0.006"	n\a	n\a	10	09-01-10
Span / Depth	9.1				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	93 lbs	n\a	2.2%	HUS1.81/10
B2	Column	3-1/2" x 1-3/4"	486 lbs	9.8%	6.5%	Unspecified
B3	Wall/Plate	5-1/2" x 1-3/4"	213 lbs	3.6%	1.8%	Spruce-Pine-Fir

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.
Hanger model HUS1.81/10 and seat length were input by the user. Hanger has not been analyzed for adequate capacity.

0K9

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

P6 1/2

DWG NO. TAM 18005-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

1ST FLR FRAMING\Flush Beams\B2(i2429) (Flush Beam)

Dry | 2 spans | No cant.

August 10, 2021 10:10:10

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code: BRAMPTON
Customer:
Code reports: CCMC 12472-R

File name: 40-5 EL A SUNKEN.mmdl
Description: 1ST FLR FRAMING\Flush Beams\B2(i2429)
Specifier:
Designer: AJ
Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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: 08-09-09.

CONFORMS TO OBC 2012
AMENDED 2020

LICENSED PROFESSIONAL ENGINEER
0144
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM/B005-21
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

2ND FLR FRAMING\Dropped Beams\B10 DR(i2501) (Dropped Beam)

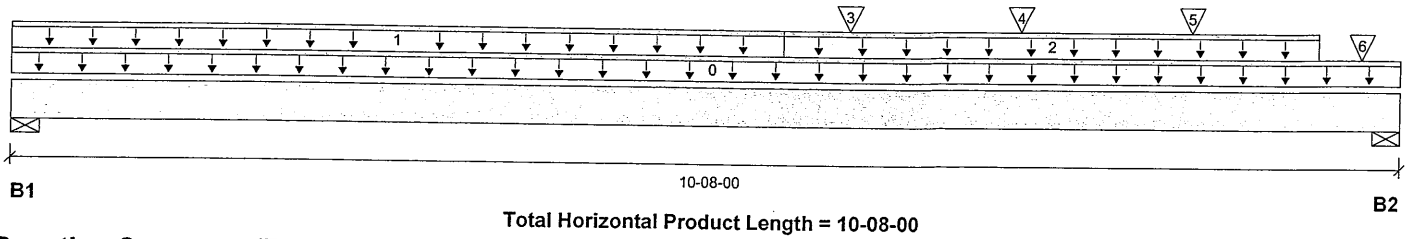
Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773

August 10, 2021 10:52:20

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

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Dropped Beams\B10 DR(i2501)
Specifier:
Designer: AJ
Company:



Total Horizontal Product Length = 10-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4"	3460 / 0	1785 / 0		
B2, 4"	3154 / 0	1630 / 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	10-08-00	Top		10			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	05-10-07	Top	652	327			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	05-10-07	10-00-07	Top	259	130			n\a
3	J1(i2537)	Conc. Pt. (lbs)	L	06-04-07	06-04-07	Top	396	198			n\a
4	J1(i2548)	Conc. Pt. (lbs)	L	07-08-07	07-08-07	Top	453	226			n\a
5	J1(i2530)	Conc. Pt. (lbs)	L	09-00-07	09-00-07	Top	453	226			n\a
6	J1(i2499)	Conc. Pt. (lbs)	L	10-04-07	10-04-07	Top	407	203			n\a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	16789 ft-lbs	23219 ft-lbs	72.3%	1	05-04-07
End Shear	5925 lbs	11571 lbs	51.2%	1	01-01-08
Total Load Deflection	L/281 (0.433")	n\a	85.6%	4	05-04-07
Live Load Deflection	L/426 (0.286")	n\a	84.6%	5	05-04-07
Max Defl.	0.433"	n\a	n\a	4	05-04-07
Span / Depth	12.8				

Bearing Supports

		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4" x 3-1/2"	7421 lbs	39.7%	43.4%	Spruce-Pine-Fir
B2	Wall/Plate	4" x 3-1/2"	6769 lbs	36.2%	39.6%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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: 00-10-12, Bottom: 10-08-00.

CONFORMS TO OBC 2012
AMENDED 2020

LICENSED PROFESSIONAL ENGINEERS
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM/18006-21
STRUCTURAL
COMPONENT ONLY

Boise Cascade® ENGINEERED WOOD PRODUCTS

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

PASSED

2ND FLR FRAMING\Dropped Beams\B10 DR(i2501) (Dropped Beam)

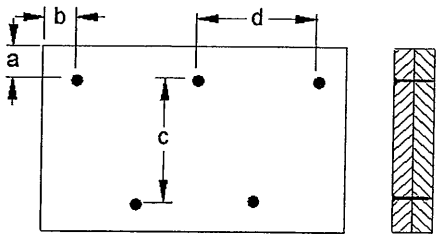
Dry | 1 span | No cant.

BC CALC® Member Report
Build 7773
Job name:
Address:
City, Province, Postal Code: BRAMPTON
Customer:
Code reports: CCMC 12472-R

August 10, 2021 10:52:20

File name: 40-5 EL A SUNKEN.mmdl
Description: 2ND FLR FRAMING\Dropped Beams\B10 DR(i2501)
Specifier:
Designer: AJ
Company:

Connection Diagram: Full Length of Member



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

Connectors are: [illegible] Pneumatic Gun Nails
3½" ARDOX SPIRAL

BWB NO. TAM/1000621
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® ,

NORDIC
STRUCTURES

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				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'-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				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'-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:

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.

NORDIC
STRUCTURES

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:

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.

NORDIC
STRUCTURES

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				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	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				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'-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:

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.

NORDIC
STRUCTURES

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				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'-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				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'-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:

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.

NORDIC
STRUCTURES

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				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'-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				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'-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:

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.

NORDIC
STRUCTURES

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				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"	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				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"	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:

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.

NORDIC
STRUCTURES

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				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	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				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'-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:

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.

NORDIC
STRUCTURES

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

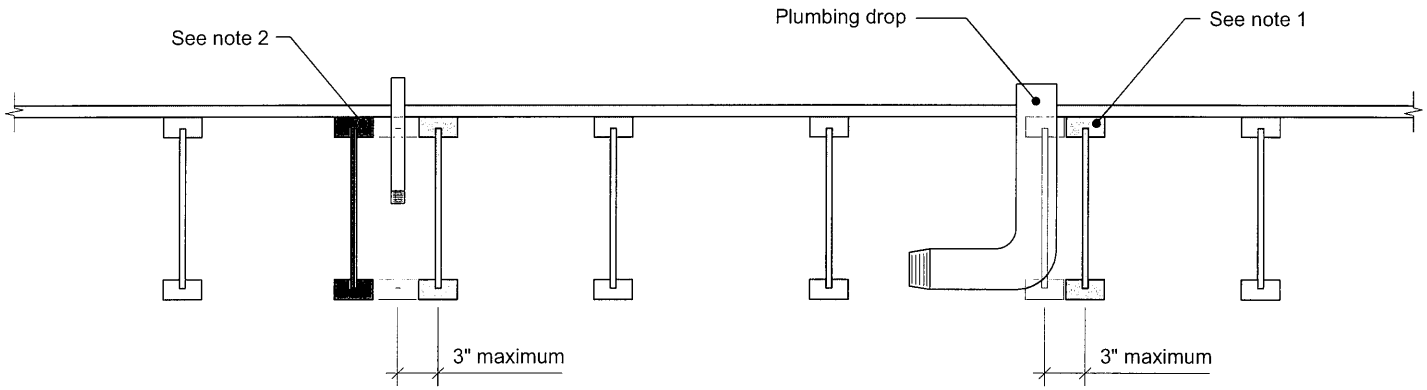
Joist depth	Joist series	Bare				1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	14'-11"
	NI-60	17'-1"	16'-1"	15'-6"	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				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'-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.

7c

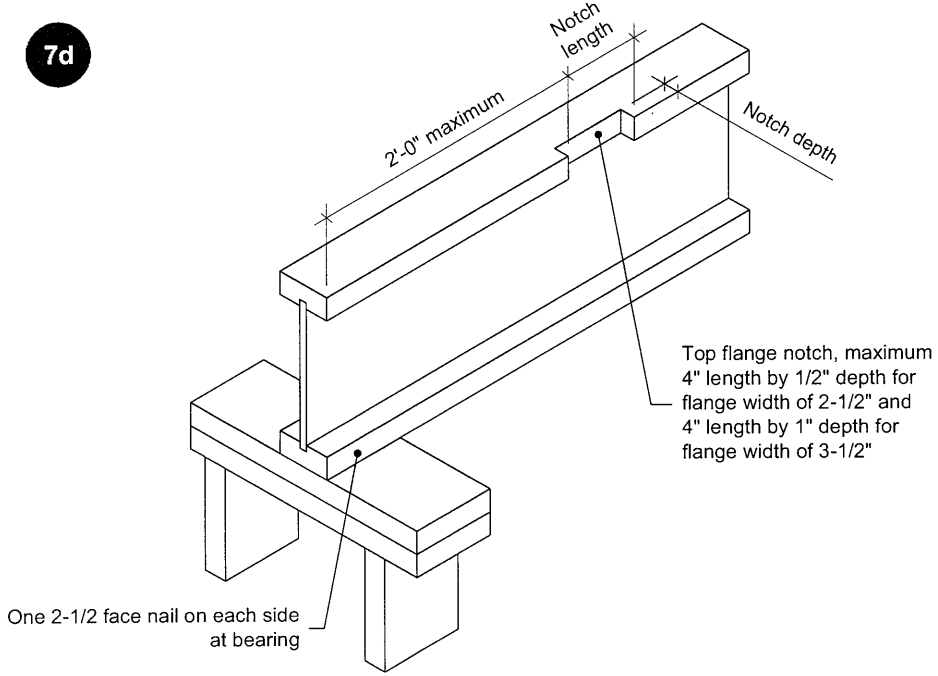


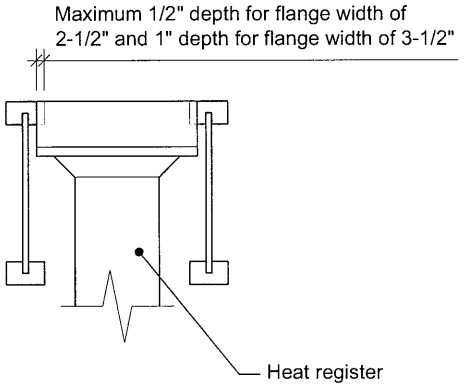
Notes:

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.

7d





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.