SHOP DRAWING TRANSMITTAL

HOBIN
ARCHITECTURE

Project:	Turnbull School Music Room Addition	Project No:	1705
Date:	October 22, 2018		
To:	TALCO Building Innovations Ltd.		
Attn:	Farah Bano (fbano@tal-co.com)		
From:	Reinhard Vogel		

- ☐ Approval
- ☒ Distribution
- ☐ Information and Use
- ☐ Review and Comment
- ☐ Other
- ☐ Courier
- ☐ By Hand
- ☐ Fax
- ☐ To Be Picked Up
- ☒ e-mail

Shop Drawing Submittal:	Division 05 - Metals
Submitted by:	CANAM
Drawing Title:	Steel Deck and Joist Shop Drawings
Revision No.	a
Dated:	3/10/18

Comments:

Reviewed as noted.

Hobin Architecture Incorporated

63 Pamilla Street
Ottawa, Ontario
Canada K1S 3K7

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CANAM

Job Number : U07664

Job Name : TURNBULL MUSIC ROOM ADDITION

Project Comments :

Grid Line A - Minimum Seat t = 7.9 mm

Grid Line C - Minimum Seat t = 9.5 mm

All seats - Minimum Edge Distance = 32 mm

Design Enclosed :

M100, M101, M102, M103, M104

Design Comments :

There is no comment.

SHOP DRAWING REVIEW

CUNLIFFE & ASSOCIATES

This review is for the sole purpose of determining general conformance with the Structural Drawings. This review does not mean that Cunliffe & Associates approves the detail design inherent in the shop drawings. The responsibility for which remains with the Contractor submitting the shop drawings. Our review does not relieve the contractor of his responsibility for errors or omissions in the shop drawings or meeting the requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site and information that pertains solely to fabrication processes or to techniques of contstruction installation and for co-ordination of the work of all subtrades.

☐ REVIEWED AS NOTED ☒ REVIEWED ☐ RESUBMIT	CHK'D BY NH DATE 10/22/18

SHOP DRAWING REVIEW

REVIEWED ☐

REVIEWED AS NOTED ☑

REVISE AND RESUBMIT ☐

HOBIN ARCHITECTURE

"This review is for the sole purpose of ascertaining conformance with the general design concept for architectural features only, and does not in any way constitute review of the design of engineering elements which form part of the Contract Documents prepared by others. This review shall not mean that the Architect approves the detail design inherent in the shop drawings. This responsibility shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes, or to techniques of construction and installation and for co-ordination for the work of all trades."

By: Reinhard Vogel Date: 10/22/2018

HOBIN ARCHITECTURE INCORPORATED

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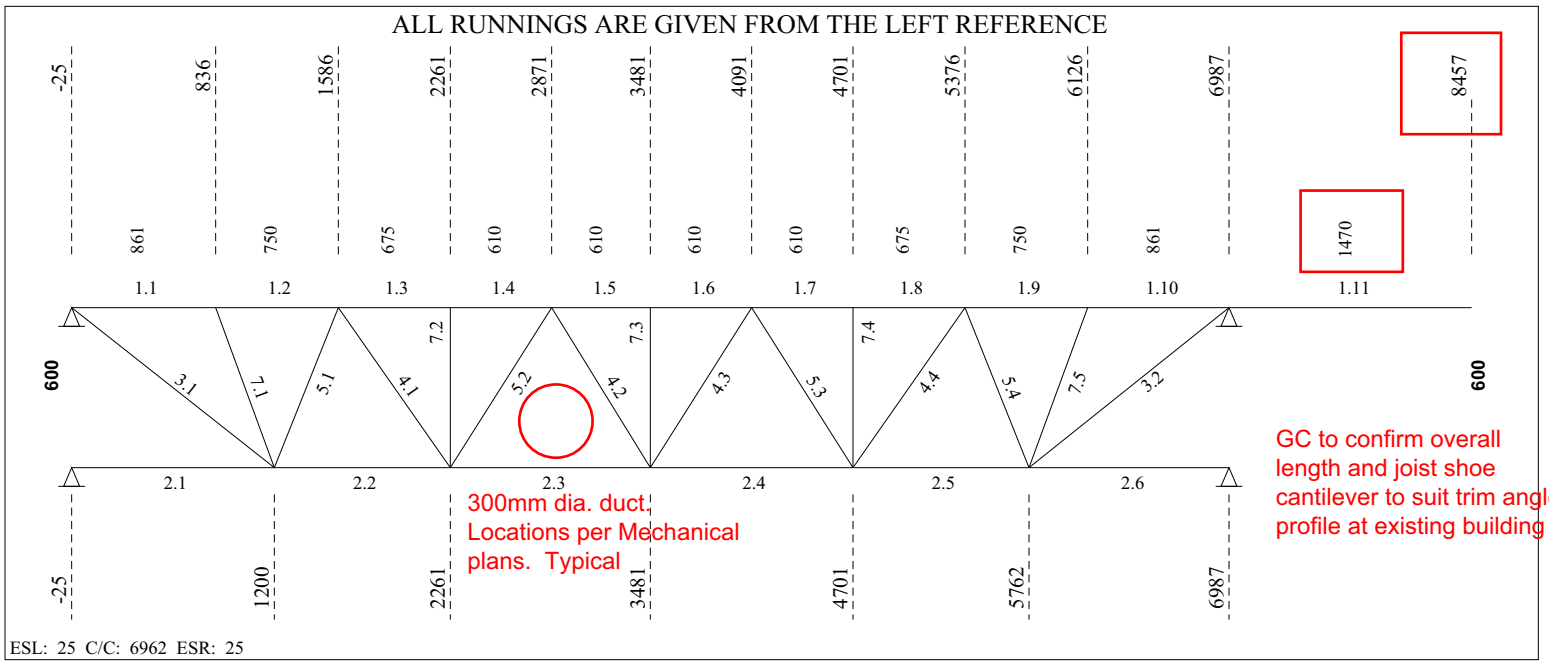
LICENSED PROFESSIONAL ENGINEER
A. SAVOIE
100140844
PROVINCE OF ONTARIO
2018-10-18

Project: TURNBULL MUSIC ROOM ADDITION

JOIST CALCULATION ACCORDING TO S16-09, S136-07 & NBC 2010 (rev 2017)

Mark : M100 (Hybrid Mid-Span, Symmetrical,, Free ends)



---------- **LOADING CONDITIONS** ----------

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....:	1.55 kN/m^2 (	1.47 kN/m)	SPACING...: 0.95 m
(L) LIVE LOAD.....:	0.00 kN/m^2 (	0.00 kN/m)	Companion load factor (live)...: 1.0
(S) SNOW LOAD.....:	3.50 kN/m^2 (	3.33 kN/m)	
(W) GROSS WIND UPLIFT:	1.37 kN/m^2 (	1.30 kN/m)	

---------- **EXTENSION** ----------

RIGHT: Length.. = 1470 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -18.699 kN-m (0.557)
I..... = 9.37 x10^6 mm^4
Top Splice...: LL 5 x 5 x 1/2 x 3156 mm

----------LOADS [kN/m]----------

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.47	0.00	3.33	1.30

--------END DEFLECTIONS [mm (L/xxx)]--------

	Required	Calculated
L+0.9S	: 8.17 (L/180)	4.76 (L/309)
Total	: 16.33 (L/90)	4.64 (L/317)

---------- **CONCENTRATED LOADS (From Axis)** ----------

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0				
2	1	No	0.00	0.00	0.00	-19.00	2226*	22			

LICENSED PROFESSIONAL ENGINEER
A. SAVOIE
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PROVINCE OF ONTARIO

2018-10-18

PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.00	0.00	5.91	5.61	0	6962	1	8
2	3	5.91	5.61	7.11	6.75	0	1470	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1):	0.00	0.00	-5.00	5.00	0.00	0.00
(case 2):	0.00	0.00	5.00	-5.00	0.00	0.00
(L) Live Load:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1):	0.00	0.00	-7.00	7.00	0.00	0.00
(case 2):	0.00	0.00	7.00	-7.00	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No]....: Yes Imposed Rows of Bridging Y/N..: No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 6.51 mm (L/ 1062)
Gross joist inertia..... = 128.55 x10^6 mm^4
Required camber..... = 14.02 mm
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

LOAD NO 2 (M100#02)

LOADING CONDITIONS

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....: 1.55 kN/m^2 (1.47 kN/m) SPACING...: 0.95 m
(L) LIVE LOAD.....: 0.00 kN/m^2 (0.00 kN/m) Companion load factor (live)...: 1.0
(S) SNOW LOAD.....: 3.50 kN/m^2 (3.33 kN/m)
(W) GROSS WIND UPLIFT: 1.37 kN/m^2 (1.30 kN/m)

EXTENSION

RIGHT: Length.. = 1470 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -18.699 kN-m

LOADS [kN/m]

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.47	0.00	3.33	1.30

END DEFLECTIONS [mm (L/xxx)]

	Required	Calculated
L+0.9S	: 8.17 (L/180)	4.76 (L/309)
Total	: 16.33 (L/90)	4.64 (L/317)

CONCENTRATED LOADS (From Axis)

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0	0	4	2	90
2	1	No	0.00	0.00	0.00	-19.00	2226*	2226	1	1	90

PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.00	0.00	5.91	5.61	0	6962	1	8
2	3	5.91	5.61	7.11	6.75	0	1470	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1)....:	0.00	0.00	-5.00	5.00	0.00	0.00
(case 2)....:	0.00	0.00	5.00	-5.00	0.00	0.00
(L) Live Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1)....:	0.00	0.00	-7.00	7.00	0.00	0.00
(case 2)....:	0.00	0.00	7.00	-7.00	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No]....: Yes Imposed Rows of Bridging Y/N..: No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 6.51 mm (L/ 1062)
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

LOAD NO 3 (M100#03)

LOADING CONDITIONS

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....: 1.55 kN/m^2 (1.47 kN/m) SPACING...: 0.95 m
(L) LIVE LOAD.....: 0.00 kN/m^2 (0.00 kN/m) Companion load factor (live)...: 1.0
(S) SNOW LOAD.....: 3.50 kN/m^2 (3.33 kN/m)
(W) GROSS WIND UPLIFT: 1.37 kN/m^2 (1.30 kN/m)

EXTENSION

RIGHT: Length.. = 1470 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -18.699 kN-m

LOADS [kN/m]

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.47	0.00	3.33	1.30

END DEFLECTIONS [mm (L/xxx)]

	Required	Calculated
L+0.9S	: 8.17 (L/180)	4.76 (L/309)
Total	: 16.33 (L/90)	4.64 (L/317)

CONCENTRATED LOADS (From Axis)

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0	0	4	2	90
2	1	No	0.00	0.00	0.00	19.00	2226*	2226	1	1	90

PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.00	0.00	5.91	5.61	0	6962	1	8
2	3	5.91	5.61	7.11	6.75	0	1470	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1)....:	0.00	0.00	-5.00	5.00	0.00	0.00
(case 2)....:	0.00	0.00	5.00	-5.00	0.00	0.00
(L) Live Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1)....:	0.00	0.00	-7.00	7.00	0.00	0.00
(case 2)....:	0.00	0.00	7.00	-7.00	0.00	0.00

Axial Force Transf.By.:	at left:	Weld Plate	at right:	Seat
Reinforcement Type....:	at left:	C	at right:	7 [0]
Bearing Depth [mm]:	at left:	100	at right:	200
Splice [Yes/No]....:	Yes	Imposed Rows of Bridging Y/N..:		No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 6.51 mm (L/ 1062)
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

LOAD NO 4 (M100#04)

LOADING CONDITIONS

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....: 1.55 kN/m^2 (1.47 kN/m) SPACING...: 0.95 m
(L) LIVE LOAD.....: 0.00 kN/m^2 (0.00 kN/m) Companion load factor (live)...: 1.0
(S) SNOW LOAD.....: 3.50 kN/m^2 (3.33 kN/m)
(W) GROSS WIND UPLIFT: 1.37 kN/m^2 (1.30 kN/m)

EXTENSION

RIGHT: Length.. = 1470 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -18.699 kN-m

LOADS [kN/m]

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.47	0.00	3.33	1.30

END DEFLECTIONS [mm (L/xxx)]

	Required	Calculated
L+0.9S	: 8.17 (L/180)	4.76 (L/309)
Total	: 16.33 (L/90)	4.64 (L/317)

CONCENTRATED LOADS (From Axis)

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0	0	4	1	90
2	1	No	0.00	0.00	0.00	19.00	2226*	2226	1	1	90

PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.00	0.00	5.91	5.61	0	6962	1	8
2	3	5.91	5.61	7.11	6.75	0	1470	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1)....:	0.00	0.00	-5.00	5.00	0.00	0.00
(case 2)....:	0.00	0.00	5.00	-5.00	0.00	0.00
(L) Live Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1)....:	0.00	0.00	-7.00	7.00	0.00	0.00
(case 2)....:	0.00	0.00	7.00	-7.00	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No]....: Yes Imposed Rows of Bridging Y/N..: No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 6.51 mm (L/ 1062)
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

End of multiple loads

F O R C E S I N M E M B E R S [kN]

(THE SHOWN FORCES ARE FACTORED)

Gap.....: 25.4 / 34.925 (Fy = 380 MPa U/N) (Eff. depth = 573.99 mm)

Left Reaction = 36.65/ -19.71 kN Right Reaction = 70.14/ -11.13 kN

No	Tension	Compres.		REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
	Top Chord								
1.1	47.26	-70.22		LL 2 x 2 x 1/4	z 73	0.38	861		
1.2	47.02	-66.54		do	z 68	0.41	750		
1.3	81.95	-110.23		do	z 61	0.52	675		
1.4	81.95	-110.23		do	z 55	0.48	610		
1.5	64.31	-120.70		do	z 55	0.43	do		
1.6	64.31	-120.70		do	z 55	0.47	do		
1.7	45.39	-103.15		do	z 55	0.47	610		
1.8	45.39	-103.15		LL 2 x 2 x 1/4	z 61	0.94	675		
1.9	28.90	-62.08		LL 5 x 5 x 1/2	z 27	0.14	750		
1.10	33.69	-57.64		do	z 29	0.56	861		
1.11	0.00	0.00		LL 5 x 5 x 1/2	z 59	0.56	1470		
	Bottom Chord								
2.1	0.00	0.00		LL 1 1/2 x 1 1/2 x 5/32	z 157	0.51	1225		
2.2	82.89	-52.56	x	do	xx 91	0.82	1061		
2.3	116.62	-65.98	x	do	xx104	0.92	1220		
2.4	113.80	-47.69	x	do	xx104	0.70	1220		
2.5	79.70	-27.04		do	z 142	0.68	1061		
2.6	0.00	0.00		LL 1 1/2 x 1 1/2 x 5/32	z 157	0.51	1225		

F O R C E S I N M E M B E R S (Cont.) [kN]

No	Tension	Compres.		REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
		End Diagonal							
3.1	73.18	-42.91		1"RB + U 1 3/8 x 0.118 (50%)	z 168	0.94	1319	5.84 - 41	
3.2	60.98	-30.60		SB 1 (50W)	z 180	0.93	1319	6.35 - 38	
		Diagonal Towards End							
4.1	35.38	-28.47		U 1 x 1 1/4 x 0.136	z 93	0.94	903	3.45 - 38	
4.2	16.02	-14.00		U 1 x 0.091	z 91	0.73	856	2.29 - 38	
4.3	15.65	-14.19		U 1 x 0.091	z 91	0.74	856	2.29 - 38	
4.4	29.80	-14.33		U 1 x 1 1/4 x 0.136	z 93	0.47	903	3.45 - 38	
		Diagonal Towards Center							
5.1	22.87	-33.05	d	U 1 3/8 x 0.136	z 59	0.63	713	3.45 - 38	
5.2	13.21	-21.00		U 1 x 1 1/8 x 0.118	z 88	0.77	856	3.00 - 38	
5.3	13.35	-23.20		U 1 x 1 1/8 x 0.118	z 88	0.86	856	3.00 - 38	
5.4	12.10	-45.42	d	U 1 3/8 x 0.136	z 59	0.87	713	3.45 - 43	
		Secondary Web Member							
7.1	0.46	-9.34		U 1 x 7/8 x 0.091	z 96	0.46	702	2.30 - 25	
7.2	26.92	-31.20		U 1 x 1 1/8 x 0.118	z 61	0.81	600	3.00 - 34	
7.3	0.30	-9.75		U 1 x 7/8 x 0.091	z 82	0.40	do	2.30 - 25	
7.4	0.32	-9.07		U 1 x 1 1/8 x 0.118	z 61	0.24	600	3.00 - 25	
7.5	36.74	-5.22	i	U 1 3/8 x 1 1/4 x 0.118	z 62	0.40	702	3.00 - 40	

BRIDGING

Maximum spacing between rows of bridging

			Lateral Supports
@ Top Chord:	5342.36 ==>	1 Row(s) Minimum	Deck (304.8)
@ Bottom Chord:	4436.18 ==>	3 Row(s) Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	3481	1200
		3481
		5762

v1.43.0

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)
Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
Hole: Top Chord with Holes at Conc. Loads
Definition of the categories (Cat.):
1 = within a panel with no reinforcement
4 = anywhere along the joist
Chord: 1 = Top, 2 = Bottom
Inclination (Incl.): 90 = Vertical, 0 = Horizontal

PARTIAL LOADS
Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
Chord: 1 = Top, 2 = Bottom
Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live 8 = Snow

Project no.: U07664 Designer: Emilie Pellerin Shop: Canam Group Inc. Toronto [Production]
260 / 269 Area to Paint : 9.63 m2 Material Sort : Cost

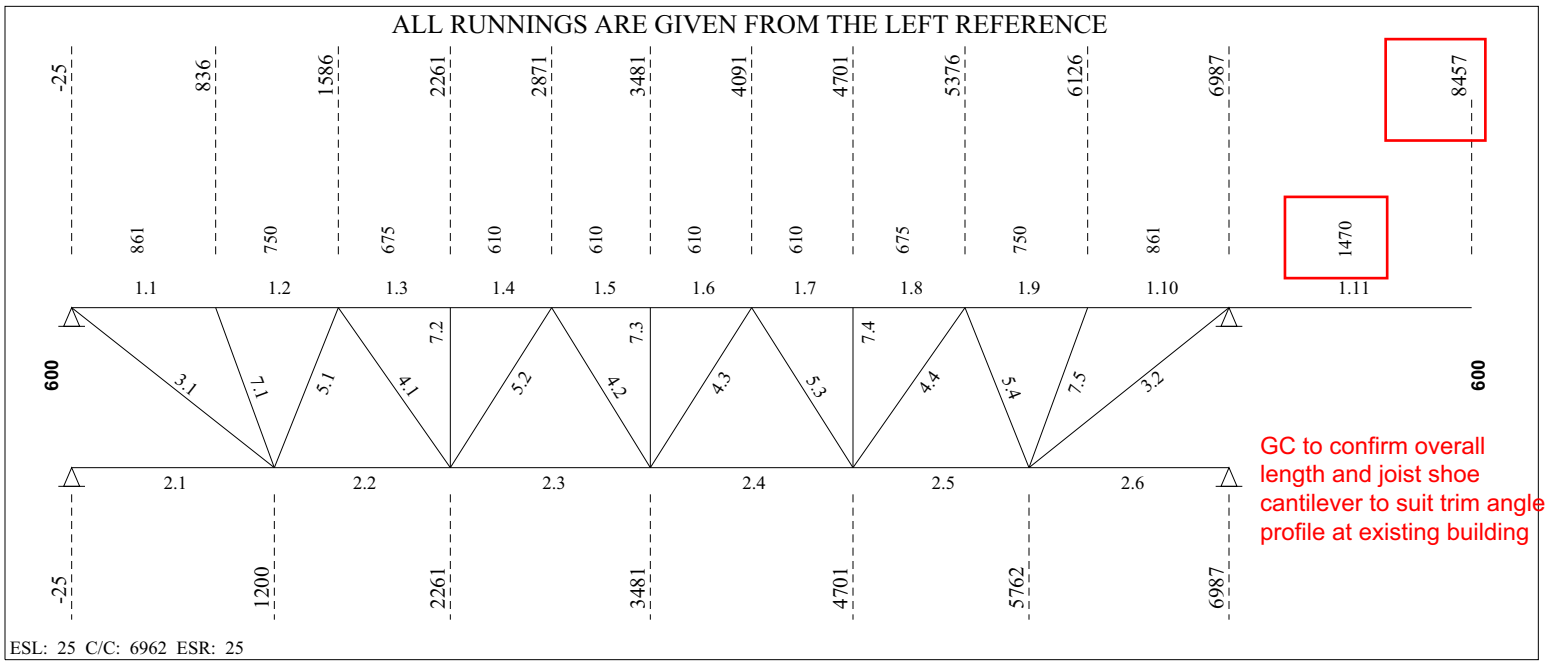
The Web-Fitting has Problems

This mark has been edited

Project: TURNBULL MUSIC ROOM ADDITION

JOIST CALCULATION ACCORDING TO S16-09, S136-07 & NBC 2010 (rev 2017)

Mark : M101 (Hybrid Mid-Span, Symmetrical,, Free ends) aligned on M100



---------- **LOADING CONDITIONS** ----------

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....:	1.55 kN/m^2 (	1.51 kN/m)	SPACING...: 0.98 m
(L) LIVE LOAD.....:	0.00 kN/m^2 (	0.00 kN/m)	Companion load factor (live)...: 1.0
(S) SNOW LOAD.....:	3.50 kN/m^2 (	3.41 kN/m)	
(W) GROSS WIND UPLIFT:	1.37 kN/m^2 (	1.34 kN/m)	

---------- **EXTENSION** ----------

RIGHT: Length.. = 1470 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -19.210 kN-m (0.570)
I..... = 9.37 x10^6 mm^4
Top Splice...: LL 5 x 5 x 1/2 x 3156 mm

----------LOADS [kN/m]----------

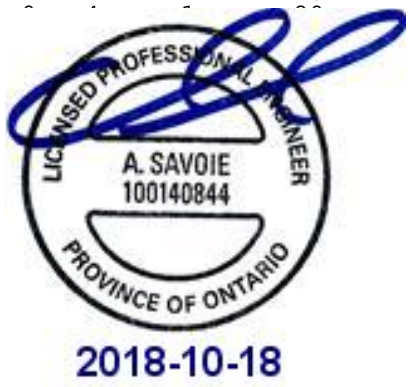
Dead(D)	Live(L)	Snow(S)	Wind(W)
1.51	0.00	3.41	1.34

--------END DEFLECTIONS [mm (L/xxx)]--------

	Required	Calculated
L+0.9S	: 8.17 (L/180)	4.72 (L/311)
Total	: 16.33 (L/90)	4.46 (L/330)

---------- **CONCENTRATED LOADS (From Axis)** ----------

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0				



PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.00	0.00	5.91	5.76	0	6962	1	8
2	3	5.91	5.76	7.11	6.93	0	1470	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1)....:	0.00	0.00	-5.20	5.20	0.00	0.00
(case 2)....:	0.00	0.00	5.20	-5.20	0.00	0.00
(L) Live Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1)....:	0.00	0.00	-7.20	7.20	0.00	0.00
(case 2)....:	0.00	0.00	7.20	-7.20	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No]....: Yes Imposed Rows of Bridging Y/N..: No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 7.84 mm (L/ 881)
Gross joist inertia..... = 110.90 x10^6 mm^4
Required camber..... = 14.02 mm
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

LOAD NO 2 (M101#02)

LOADING CONDITIONS

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....: 1.55 kN/m^2 (1.51 kN/m) SPACING...: 0.98 m
(L) LIVE LOAD.....: 0.00 kN/m^2 (0.00 kN/m) Companion load factor (live)...: 1.0
(S) SNOW LOAD.....: 3.50 kN/m^2 (3.41 kN/m)
(W) GROSS WIND UPLIFT: 1.37 kN/m^2 (1.34 kN/m)

EXTENSION

RIGHT: Length.. = 1470 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -19.210 kN-m

LOADS [kN/m]

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.51	0.00	3.41	1.34

END DEFLECTIONS [mm (L/xxx)]

	Required	Calculated
L+0.9S	: 8.17 (L/180)	4.72 (L/311)
Total	: 16.33 (L/90)	4.46 (L/330)

CONCENTRATED LOADS (From Axis)

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0	0	4	2	90

PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.00	0.00	5.91	5.76	0	6962	1	8
2	3	5.91	5.76	7.11	6.93	0	1470	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1).....:	0.00	0.00	-5.20	5.20	0.00	0.00
(case 2).....:	0.00	0.00	5.20	-5.20	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-7.20	7.20	0.00	0.00
(case 2).....:	0.00	0.00	7.20	-7.20	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N..: No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 7.84 mm (L/ 881)
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

End of multiple loads

F O R C E S I N M E M B E R S [kN]

(THE SHOWN FORCES ARE FACTORED)

Gap.....: 25.4 / 34.925 (Fy = 380 MPa U/N) (Eff. depth = 574.27 mm)

Left Reaction = 34.07/ -1.77 kN Right Reaction = 71.95/ -2.59 kN

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
			Top Chord					
1.1	10.79	-62.22	LL 2 x 2 x 1/4	z 73	0.36	861		
1.2	10.54	-58.19	do	z 68	0.37	750		
1.3	12.26	-94.88	do	z 61	0.37	675		
1.4	12.26	-94.88	do	z 55	0.40	610		
1.5	12.93	-111.49	do	z 55	0.41	do		
1.6	12.93	-111.49	do	z 55	0.45	do		
1.7	12.27	-97.96	do	z 55	0.45	610		
1.8	12.27	-97.96	LL 2 x 2 x 1/4	z 61	0.94	675		
1.9	10.98	-58.31	LL 5 x 5 x 1/2	z 27	0.13	750		
1.10	15.90	-53.76	do	z 29	0.57	861		
1.11	0.00	0.00	LL 5 x 5 x 1/2	z 59	0.57	1470		
			Bottom Chord					
2.1	0.00	0.00	LL 1 1/2 x 1 1/2 x 1/8	z 156	0.61	1225		
2.2	74.31	-3.72	do	z 127	0.79	1061		
2.3	106.69	-5.15	do	z 146	0.82	1220		
2.4	108.98	-5.16	do	z 146	0.82	1220		
2.5	78.05	-3.73	do	z 127	0.83	1061		
2.6	0.00	0.00	LL 1 1/2 x 1 1/2 x 1/8	z 156	0.66	1225		

F O R C E S I N M E M B E R S (Cont.) [kN]

No	Tension	Compres.		REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
	End Diagonal								
3.1	66.87	-3.43		SB 1 (50W)	z 180	0.34	1319	6.35 - 38	
3.2	58.82	-17.20		SB 1 (50W)	z 180	0.52	1319	6.35 - 38	
	Diagonal Towards End								
4.1	27.84	-1.41		U 1 x 7/8 x 0.091	z 123	0.60	903	2.30 - 40	
4.2	10.74	-3.82		do	z 116	0.27	856	2.30 - 38	
4.3	10.86	-3.64		do	z 116	0.26	856	2.30 - 38	
4.4	28.02	-1.41		U 1 x 7/8 x 0.091	z 123	0.60	903	2.30 - 40	
	Diagonal Towards Center								
5.1	1.51	-28.97	d	U 1 3/8 x 0.136	z 59	0.56	713	3.45 - 38	
5.2	0.96	-18.52		U 1 x 1 1/8 x 0.118	z 88	0.68	856	3.00 - 38	
5.3	1.10	-21.05		U 1 x 1 1/8 x 0.118	z 88	0.78	856	3.00 - 38	
5.4	1.91	-45.47	d	U 1 3/8 x 0.136	z 59	0.87	713	3.45 - 43	
	Secondary Web Member								
7.1	0.47	-9.36		U 1 x 7/8 x 0.091	z 96	0.47	702	2.30 - 25	
7.2	0.33	-8.90		do	z 82	0.36	600	do	
7.3	0.31	-9.74		do	z 82	0.40	do	do	
7.4	0.33	-9.13		U 1 x 7/8 x 0.091	z 82	0.37	600	2.30 - 25	
7.5	37.73	-5.26	i	U 1 3/8 x 1 1/4 x 0.118	z 62	0.41	702	3.00 - 41	

BRIDGING

Maximum spacing between rows of bridging — Lateral Supports

@ Top Chord: 5342.92 ==> 1 Row(s) Minimum — Deck (304.8)

@ Bottom Chord: 4400.87 ==> 3 Row(s) Minimum — Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	3481	1200
		3481
		5762

v1.43.0

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar

-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Chord: 1 = Top, 2 = Bottom

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live 8 = Snow

Project no.: U07664 Designer: Emilie Pellerin Shop: Canam Group Inc. Toronto [Production]

252 / 260 Area to Paint : 9.33 m2 Material Sort : Cost

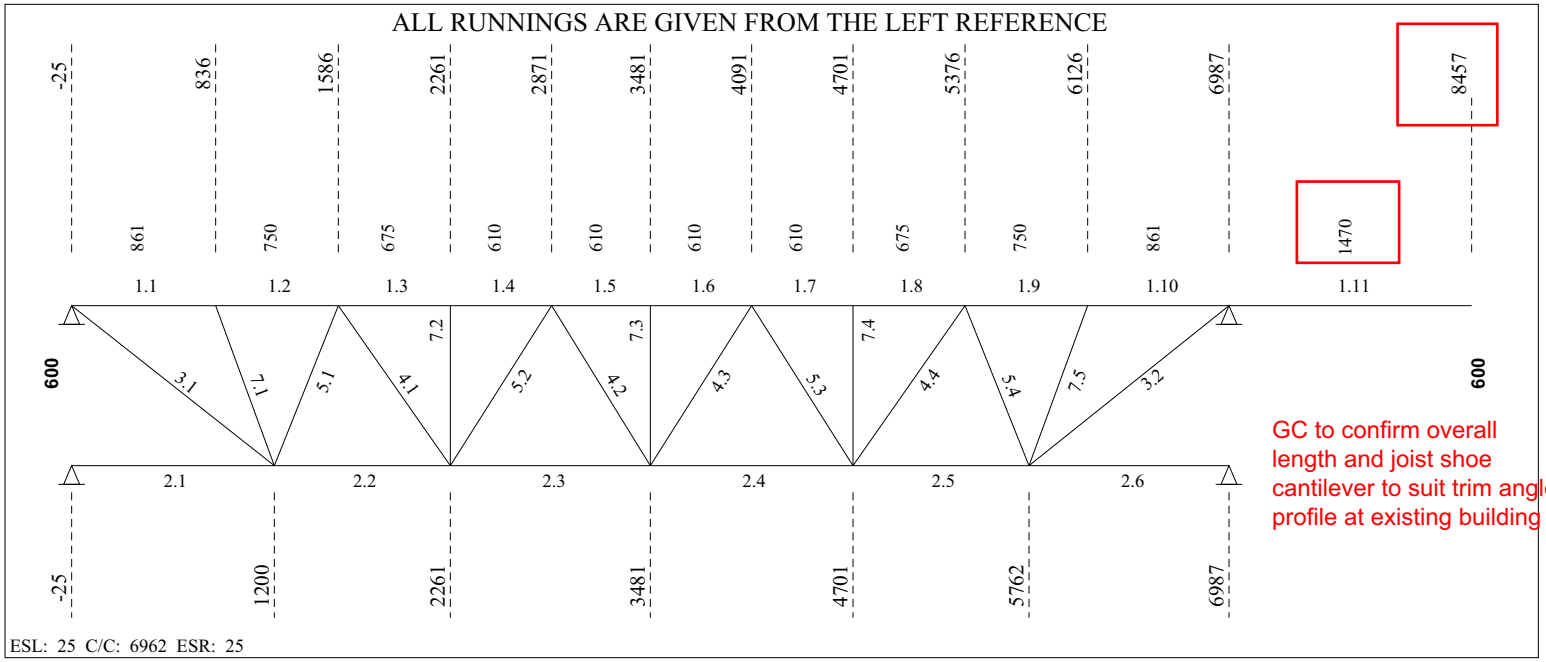
The Web-Fitting has Problems

This mark has been edited

Project: TURNBULL MUSIC ROOM ADDITION

JOIST CALCULATION ACCORDING TO S16-09, S136-07 & NBC 2010 (rev 2017)

Mark : M102 (Hybrid Mid-Span, Symmetrical,, Free ends) aligned on M100



---------- **LOADING CONDITIONS** ----------

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....:	1.55 kN/m^2	(1.51 kN/m)	SPACING...: 0.98 m	
(L) LIVE LOAD.....:	0.00 kN/m^2	(0.00 kN/m)	Companion load factor (live)...: 1.0	
(S) SNOW LOAD.....:	3.50 kN/m^2	(3.41 kN/m)		
(W) GROSS WIND UPLIFT:	1.37 kN/m^2	(1.34 kN/m)		

---------- **EXTENSION** ----------

RIGHT: Length.. = 1470 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -19.543 kN-m (0.597)
I..... = 9.37 x10^6 mm^4
Top Splice...: LL 5 x 5 x 1/2 x 3156 mm

----------LOADS [kN/m]----------

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.51	0.00	3.41	1.34

--------END DEFLECTIONS [mm (L/xxx)]--------

	Required	Calculated
L+0.9S	: 8.17 (L/180)	4.93 (L/298)
Total	: 16.33 (L/90)	1.92 (L/766)

---------- **CONCENTRATED LOADS (From Axis)** ----------

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0				
2	1	No	2.00	0.00	0.00	0.00	0				

----------CONCENTRATED LOADS (From Axis) (Cont.)----------

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
3	1	No	2.00	0.00	0.00	0.00	0	0	4	1	90

---------- PARTIAL LOADS (From Axis) ----------

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	5.60	5.46	5.60	5.46	4085	2465	1	1
2	1	0.00	0.00	5.91	5.76	0	6962	1	8
3	3	5.91	5.76	7.11	6.93	0	1470	1	8

---------- END MOMENTS [kN-m] & AXIAL LOADS[kN] ----------

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1).....:	0.00	0.00	-6.50	6.50	0.00	0.00
(case 2).....:	0.00	0.00	6.50	-6.50	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-9.00	9.00	0.00	0.00
(case 2).....:	0.00	0.00	9.00	-9.00	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N..: No

---------- (REAL) DEFLECTION ----------

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 6.74 mm (L/ 1026)
Gross joist inertia..... = 130.96 x10^6 mm^4
Required camber..... = 14.02 mm
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

========== LOAD NO 2 (M102#02) ==========

---------- LOADING CONDITIONS ----------

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....: 1.55 kN/m^2 (1.51 kN/m) SPACING...: 0.98 m
(L) LIVE LOAD.....: 0.00 kN/m^2 (0.00 kN/m) Companion load factor (live)...: 1.0
(S) SNOW LOAD.....: 3.50 kN/m^2 (3.41 kN/m)
(W) GROSS WIND UPLIFT: 1.37 kN/m^2 (1.34 kN/m)

---------- EXTENSION ----------

RIGHT: Length.. = 1470 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -19.543 kN-m

----------LOADS [kN/m]----------

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.51	0.00	3.41	1.34

--------END DEFLECTIONS [mm (L/xxx)]--------

	Required	Calculated
L+0.9S	: 8.17 (L/180)	4.93 (L/298)
Total	: 16.33 (L/90)	1.92 (L/766)

---------- CONCENTRATED LOADS (From Axis)----------

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0	0	4	2	90

CONCENTRATED LOADS (From Axis) (Cont.)

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
2	1	No	2.00	0.00	0.00	0.00	0	0	4	1	90
3	1	No	2.00	0.00	0.00	0.00	0	0	4	1	90

PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	5.60	5.46	5.60	5.46	4085	2465	1	1
2	1	0.00	0.00	5.91	5.76	0	6962	1	8
3	3	5.91	5.76	7.11	6.93	0	1470	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1).....:	0.00	0.00	-6.50	6.50	0.00	0.00
(case 2).....:	0.00	0.00	6.50	-6.50	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-9.00	9.00	0.00	0.00
(case 2).....:	0.00	0.00	9.00	-9.00	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N..: No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 6.74 mm (L/ 1026)
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

End of multiple loads

F O R C E S I N M E M B E R S [kN]

(THE SHOWN FORCES ARE FACTORED)
Gap.....: 25.4 / 34.925 (Fy = 380 MPa U/N) (Eff. depth = 569.50 mm)

Left Reaction = 43.01/ 0.00 kN Right Reaction = 89.83/ 0.00 kN

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
			Top Chord					
1.1	6.95	-79.98	LL 2 1/2 x 2 1/2 x 1/4	z 58	0.32	861		
1.2	6.69	-74.80	do	z 54	0.36	750		
1.3	3.14	-124.44	do	z 49	0.36	675		
1.4	3.14	-124.44	do	z 44	0.39	610		
1.5	0.00	-151.51	do	z 44	0.39	do		
1.6	0.00	-151.51	do	z 44	0.45	do		
1.7	0.00	-142.15	do	z 44	0.47	610		
1.8	0.00	-142.15	LL 2 1/2 x 2 1/2 x 1/4	z 49	0.81	675		
1.9	0.00	-90.04	LL 5 x 5 x 1/2	z 27	0.14	750		
1.10	0.00	-89.73	do	z 29	0.60	861		
1.11	0.00	0.00	LL 5 x 5 x 1/2	z 59	0.60	1470		

F O R C E S I N M E M B E R S (Cont.) [kN]

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
			Bottom Chord					
2.1	0.00	0.00	LL 1 3/4 x 1 3/4 x 1/8	z 133	0.66	1225		
2.2	96.34	0.00	do	z 120	0.88	1061		
2.3	141.98	0.00	do	z 138	0.93	1220		
2.4	152.74	0.00	do	z 138	0.94	1220		
2.5	120.21	0.00	do	z 120	0.97	1061		
2.6	0.00	0.00	LL 1 3/4 x 1 3/4 x 1/8	z 133	0.79	1225		
			End Diagonal					
3.1	85.24	0.00	SB 1 (50W)	z 180	0.43	1319	6.35 - 44	
3.2	96.09	-4.67	SB 1 (50W)	z 180	0.48	1319	6.35 - 49	
			Diagonal Towards End					
4.1	38.86	0.00	U 1 x 7/8 x 0.091	z 137	0.83	903	2.30 - 55	
4.2	19.93	-2.71	do	z 116	0.43	856	2.30 - 38	
4.3	10.25	-11.97	do	z 116	0.85	856	2.30 - 38	
4.4	36.97	-0.33	U 1 x 7/8 x 0.091	z 123	0.79	903	2.30 - 53	
			Diagonal Towards Center					
5.1	0.00	-38.26 d	U 1 3/8 x 0.157	z 57	0.59	713	4.00 - 38	
5.2	0.00	-28.33	U 1 x 1 1/4 x 0.136	z 88	0.86	856	3.45 - 38	
5.3	5.31	-22.84	U 1 x 1 1/4 x 0.136	z 88	0.70	856	3.45 - 38	
5.4	0.00	-58.91 d	U 1 3/8 x 0.157	z 57	0.91	713	4.00 - 48	
			Secondary Web Member					
7.1	0.47	-15.57	U 1 x 7/8 x 0.091	z 96	0.77	702	2.30 - 25	
7.2	0.33	-14.50	do	z 82	0.59	600	do	
7.3	0.31	-15.55	do	z 82	0.64	do	2.30 - 25	
7.4	0.00	-19.42	U 1 x 7/8 x 0.091	z 82	0.79	600	2.30 - 28	
7.5	34.26	-17.71 i	U 1 3/8 x 1 1/4 x 0.118	z 62	0.37	702	3.00 - 38	

BRIDGING

Maximum spacing between rows of bridging

			Lateral Supports
@ Top Chord:	6164.09 ==>	1 Row(s) Minimum	Deck (304.8)
@ Bottom Chord:	6791.19 ==>	3 Row(s) Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	3481	1200
		3481
		5762

v1.43.0

Fabrication code unless noted
-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)
Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
Hole: Top Chord with Holes at Conc. Loads
Definition of the categories (Cat.):
4 = anywhere along the joist
Chord: 1 = Top, 2 = Bottom
Inclination (Incl.): 90 = Vertical, 0 = Horizontal

PARTIAL LOADS
Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
Chord: 1 = Top, 2 = Bottom

Project: TURNBULL MUSIC ROOM ADDITION

(U07664) 18/10/18 07:58:56

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live 8 = Snow

Project no.: U07664 Designer: Emilie Pellerin Shop: Canam Group Inc. Toronto [Production]
272 / 281 Area to Paint : 10.25 m2 Material Sort : Cost

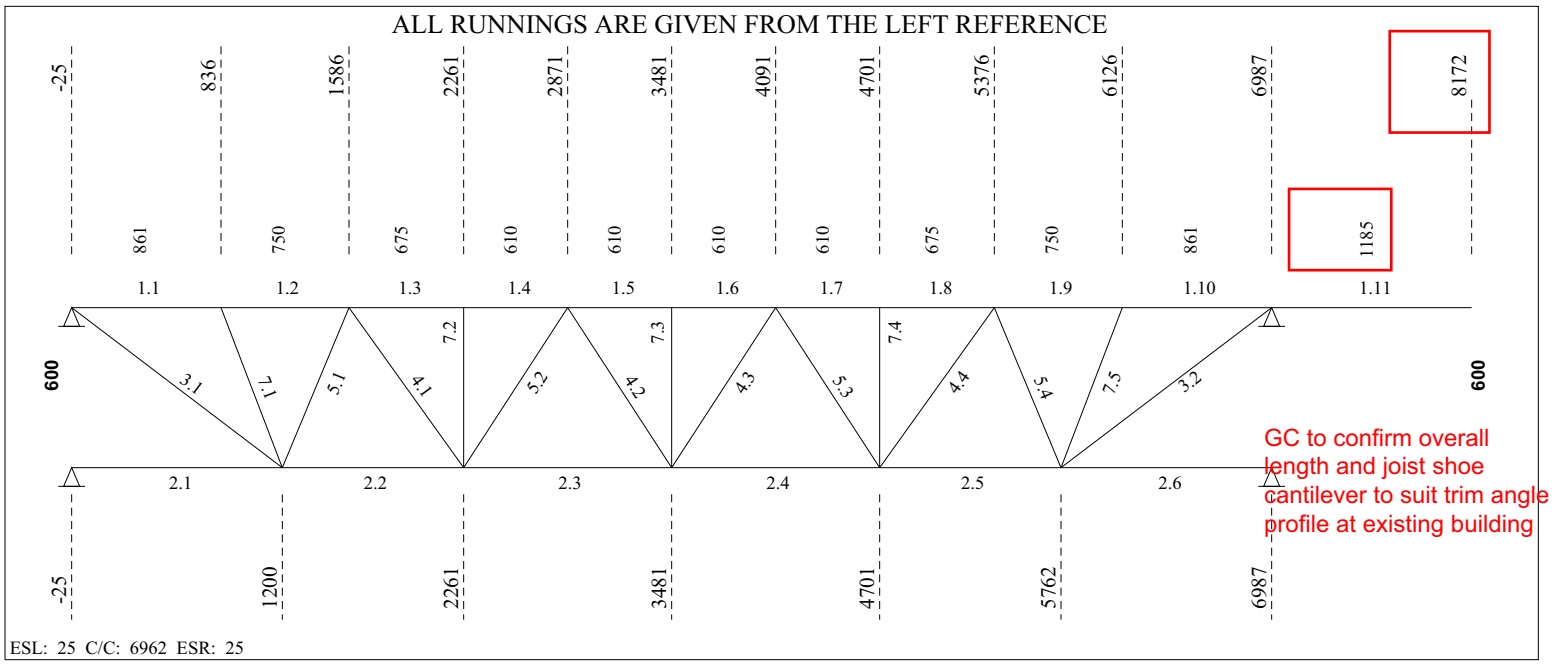
The Web-Fitting has Problems

This mark has been edited

Project: TURNBULL MUSIC ROOM ADDITION

JOIST CALCULATION ACCORDING TO S16-09, S136-07 & NBC 2010 (rev 2017)

Mark : M103 (Hybrid Mid-Span, Symmetrical,, Free ends) aligned on M100



---------- **LOADING CONDITIONS** ----------

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....:	1.45 kN/m^2	(1.41 kN/m)	SPACING...: 0.98 m	
(L) LIVE LOAD.....:	0.00 kN/m^2	(0.00 kN/m)	Companion load factor (live)...:	1.0
(S) SNOW LOAD.....:	3.50 kN/m^2	(3.41 kN/m)		
(W) GROSS WIND UPLIFT:	1.37 kN/m^2	(1.34 kN/m)		

---------- **EXTENSION** ----------

RIGHT: Length.. = 1185 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -12.894 kN-m (0.900)
I..... = 3.63 x10^6 mm^4
Top Splice...: LL 4 x 4 x 3/8 x 2121 mm

----------LOADS [kN/m]----------

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.41	0.00	3.41	1.34

--------END DEFLECTIONS [mm (L/xxx)]--------

	Required	Calculated
L+0.9S	: 6.58 (L/180)	5.27 (L/225)
Total	: 13.17 (L/90)	2.72 (L/435)

---------- **CONCENTRATED LOADS (From Axis)** ----------

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0				
2	1	No	2.00	0.00	0.00	0.00	0				

----------CONCENTRATED LOADS (From Axis) (Cont.)----------

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
3	1	No	2.00	0.00	0.00	0.00	0	0	4	1	90

---------- PARTIAL LOADS (From Axis) ----------

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	5.60	5.46	5.60	5.46	4085	2465	1	1
2	1	0.00	0.00	5.91	5.76	0	6962	1	8
3	3	5.90	5.75	6.90	6.73	0	1185	1	8

---------- END MOMENTS [kN-m] & AXIAL LOADS[kN] ----------

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1).....:	0.00	0.00	-6.00	6.00	0.00	0.00
(case 2).....:	0.00	0.00	6.00	-6.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-8.40	8.40	0.00	0.00
(case 2).....:	0.00	0.00	8.40	-8.40	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N..: No

---------- (REAL) DEFLECTION ----------

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 7.24 mm (L/ 955)
Gross joist inertia..... = 128.25 x10^6 mm^4
Required camber..... = 14.02 mm
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

========== LOAD NO 2 (M103#02) ==========

---------- LOADING CONDITIONS ----------

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....: 1.45 kN/m^2 (1.41 kN/m) SPACING...: 0.98 m
(L) LIVE LOAD.....: 0.00 kN/m^2 (0.00 kN/m) Companion load factor (live)...: 1.0
(S) SNOW LOAD.....: 3.50 kN/m^2 (3.41 kN/m)
(W) GROSS WIND UPLIFT: 1.37 kN/m^2 (1.34 kN/m)

---------- EXTENSION ----------

RIGHT: Length.. = 1185 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -12.894 kN-m

----------LOADS [kN/m]----------

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.41	0.00	3.41	1.34

--------END DEFLECTIONS [mm (L/xxx)]--------

	Required	Calculated
L+0.9S	: 6.58 (L/180)	5.27 (L/225)
Total	: 13.17 (L/90)	2.72 (L/435)

---------- CONCENTRATED LOADS (From Axis)----------

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0	0	4	2	90

CONCENTRATED LOADS (From Axis) (Cont.)

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
2	1	No	2.00	0.00	0.00	0.00	0	0	4	1	90
3	1	No	2.00	0.00	0.00	0.00	0	0	4	1	90

PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	5.60	5.46	5.60	5.46	4085	2465	1	1
2	1	0.00	0.00	5.91	5.76	0	6962	1	8
3	3	5.90	5.75	6.90	6.73	0	1185	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1)....:	0.00	0.00	-6.00	6.00	0.00	0.00
(case 2)....:	0.00	0.00	6.00	-6.00	0.00	0.00
(L) Live Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1)....:	0.00	0.00	-8.40	8.40	0.00	0.00
(case 2)....:	0.00	0.00	8.40	-8.40	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No]....: Yes Imposed Rows of Bridging Y/N..: No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 7.24 mm (L/ 955)
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

End of multiple loads

F O R C E S I N M E M B E R S [kN]

(THE SHOWN FORCES ARE FACTORED)
Gap.....: 25.4 / 34.925 (Fy = 380 MPa U/N) (Eff. depth = 569.68 mm)

Left Reaction = 43.09/ 0.00 kN Right Reaction = 83.43/ 0.00 kN

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
			Top Chord					
1.1	6.73	-80.21	LLV 2 1/2 x 2 1/2 x .230 (55)	z 58	0.39	861		
1.2	6.43	-75.09	do	z 54	0.43	750		
1.3	3.15	-125.23	do	z 49	0.43	675		
1.4	3.15	-125.23	do	z 44	0.48	610		
1.5	0.00	-153.21	do	z 44	0.48	do		
1.6	0.00	-153.21	do	z 44	0.54	do		
1.7	0.00	-145.20	do	z 44	0.57	610		
1.8	0.00	-145.20	do	z 49	0.84	675		
1.9	0.00	-91.52	LLV 2 1/2 x 2 1/2 x .230 (55)	z 54	0.84	750		
1.10	0.00	-97.26	LL 4 x 4 x 3/8	z 36	0.90	861		
1.11	0.00	0.00	LL 4 x 4 x 3/8	z 59	0.90	1185		

F O R C E S I N M E M B E R S (Cont.) [kN]

No	Tension	Compres.		REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
		Bottom Chord							
2.1	0.00	0.00		LL 1 3/4 x 1 3/4 x 1/8	z 133	0.66	1225		
2.2	96.78	0.00		do	z 120	0.89	1061		
2.3	143.18	0.00		do	z 138	0.94	1220		
2.4	154.96	0.00		do	z 138	0.95	1220		
2.5	119.62	0.00		do	z 120	0.95	1061		
2.6	0.00	0.00		LL 1 3/4 x 1 3/4 x 1/8	z 133	0.80	1225		
		End Diagonal							
3.1	85.51	0.00		BR 15/16 (50W)	z 222	0.62	1319	5.00 - 40	
3.2	105.72	-4.31		SB 1 (50W)	z 180	0.53	1319	6.35 - 54	
		Diagonal Towards End							
4.1	39.33	0.00		U 1 x 0.091	z 107	0.71	903	2.29 - 56	
4.2	20.60	-1.42		U 1 x 7/8 x 0.091	z 116	0.44	856	2.30 - 38	
4.3	8.98	-12.63		U 1 x 7/8 x 0.091	z 116	0.89	856	2.30 - 38	
4.4	36.71	-0.53		U 1 x 0.091	z 96	0.67	903	2.29 - 52	
		Diagonal Towards Center							
5.1	0.00	-38.52	d	U 1 3/8 x 0.157	z 57	0.60	713	4.00 - 38	
5.2	0.00	-28.88		U 1 x 1 1/4 x 0.136	z 88	0.88	856	3.45 - 38	
5.3	5.44	-20.96		U 1 x 1 1/4 x 0.136	z 88	0.64	856	3.45 - 38	
5.4	0.00	-53.94	d	U 1 3/8 x 0.157	z 57	0.83	713	4.00 - 44	
		Secondary Web Member							
7.1	0.55	-15.46		U 1 x 7/8 x 0.091	z 96	0.77	702	2.30 - 25	
7.2	0.38	-14.44		do	z 82	0.59	600	do	
7.3	0.36	-15.57		do	z 82	0.64	do	2.30 - 25	
7.4	0.00	-20.08		U 1 x 7/8 x 0.091	z 82	0.82	600	2.30 - 29	
7.5	18.50	-18.11	i	U 1 3/8 x 1 1/4 x 0.118	z 62	0.37	702	3.00 - 38	

BRIDGING

Maximum spacing between rows of bridging

			Lateral Supports
@ Top Chord:	6059.41 ==>	1 Row(s) Minimum	Deck (304.8)
@ Bottom Chord:	6791.19 ==>	3 Row(s) Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	3481	1200
		3481
		5762

v1.43.0

Fabrication code unless noted
-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)
Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
Hole: Top Chord with Holes at Conc. Loads
Definition of the categories (Cat.):
4 = anywhere along the joist
Chord: 1 = Top, 2 = Bottom
Inclination (Incl.): 90 = Vertical, 0 = Horizontal

PARTIAL LOADS
Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
Chord: 1 = Top, 2 = Bottom

Project: TURNBULL MUSIC ROOM ADDITION

(U07664) 18/10/18 07:58:57

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live 8 = Snow

Project no.: U07664 Designer: Emilie Pellerin Shop: Canam Group Inc. Toronto [Production]
183 / 192 Area to Paint : 9.18 m2 Material Sort : Cost

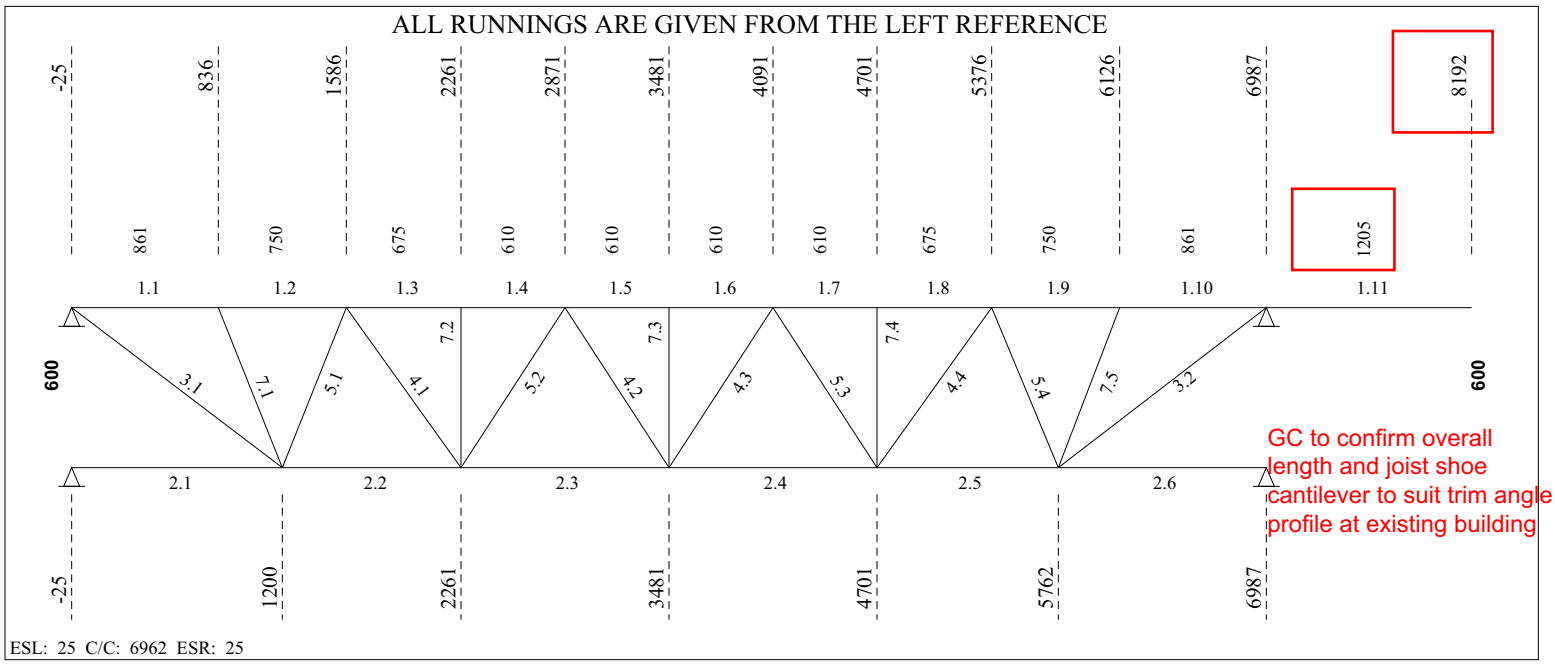
The Web-Fitting has Problems

This mark has been edited

Project: TURNBULL MUSIC ROOM ADDITION

JOIST CALCULATION ACCORDING TO S16-09, S136-07 & NBC 2010 (rev 2017)

Mark : M104 (Hybrid Mid-Span, Symmetrical,, Free ends) aligned on M100



---------- **LOADING CONDITIONS** ----------

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....:	1.45 kN/m^2	(1.38 kN/m)	SPACING...: 0.95 m	
(L) LIVE LOAD.....:	0.00 kN/m^2	(0.00 kN/m)	Companion load factor (live)...:	1.0
(S) SNOW LOAD.....:	3.50 kN/m^2	(3.33 kN/m)		
(W) GROSS WIND UPLIFT:	1.37 kN/m^2	(1.30 kN/m)		

---------- **EXTENSION** ----------

RIGHT: Length.. = 1205 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -12.547 kN-m (0.846)
I..... = 3.63 x10^6 mm^4
Top Splice...: LL 4 x 4 x 3/8 x 2141 mm

----------LOADS [kN/m]----------

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.38	0.00	3.33	1.30

--------END DEFLECTIONS [mm (L/xxx)]--------

	Required	Calculated
L+0.9S	: 6.69 (L/180)	5.40 (L/223)
Total	: 13.39 (L/90)	5.43 (L/222)

---------- **CONCENTRATED LOADS (From Axis)** ----------

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0				

LICENSED PROFESSIONAL ENGINEER
A. SAVOIE
100140844
PROVINCE OF ONTARIO
2018-10-18

PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.00	0.00	5.91	5.61	0	6962	1	8
2	3	5.91	5.61	6.91	6.56	0	1205	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1)....:	0.00	0.00	-4.30	4.30	0.00	0.00
(case 2)....:	0.00	0.00	4.30	-4.30	0.00	0.00
(L) Live Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1)....:	0.00	0.00	-5.90	5.90	0.00	0.00
(case 2)....:	0.00	0.00	5.90	-5.90	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No]....: Yes Imposed Rows of Bridging Y/N..: No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 8.08 mm (L/ 855)
Gross joist inertia..... = 110.90 x10^6 mm^4
Required camber..... = 14.02 mm
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

LOAD NO 2 (M104#02)

LOADING CONDITIONS

(THE SHOWN VALUES ARE UN-FACTORED)

(D) DEAD LOAD.....: 1.45 kN/m^2 (1.38 kN/m) SPACING...: 0.95 m
(L) LIVE LOAD.....: 0.00 kN/m^2 (0.00 kN/m) Companion load factor (live)...: 1.0
(S) SNOW LOAD.....: 3.50 kN/m^2 (3.33 kN/m)
(W) GROSS WIND UPLIFT: 1.37 kN/m^2 (1.30 kN/m)

EXTENSION

RIGHT: Length.. = 1205 mm
Depth... = 200 mm
Type.... = N[S]
Mf..... = -12.547 kN-m

LOADS [kN/m]

Dead(D)	Live(L)	Snow(S)	Wind(W)
1.38	0.00	3.33	1.30

END DEFLECTIONS [mm (L/xxx)]

	Required	Calculated
L+0.9S	: 6.69 (L/180)	5.40 (L/223)
Total	: 13.39 (L/90)	5.43 (L/222)

CONCENTRATED LOADS (From Axis)

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.50	0.00	0.00	0.00	0	0	4	2	90

PARTIAL LOADS (From Axis)

No	Span	Left [kN/m2]	Left [kN/m]	Right [kN/m2]	Right [kN/m]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.00	0.00	5.91	5.61	0	6962	1	8
2	3	5.91	5.61	6.91	6.56	0	1205	1	8

END MOMENTS [kN-m] & AXIAL LOADS[kN]

	MOMENTS ---L---	MOMENTS ---R---	AXIAL LOADS <<< Top Chord >>> ---L---	AXIAL LOADS <<< Top Chord >>> ---R---	AXIAL LOADS << Bottom Chord >> ---L---	AXIAL LOADS << Bottom Chord >> ---R---
(W) Wind (case 1)....:	0.00	0.00	-4.30	4.30	0.00	0.00
(case 2)....:	0.00	0.00	4.30	-4.30	0.00	0.00
(L) Live Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(S) Snow Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1)....:	0.00	0.00	-5.90	5.90	0.00	0.00
(case 2)....:	0.00	0.00	5.90	-5.90	0.00	0.00

Axial Force Transf.By.: at left: Weld Plate at right: Seat
Reinforcement Type....: at left: C at right: 7 [0]
Bearing Depth [mm]: at left: 100 at right: 200
Splice [Yes/No]....: Yes Imposed Rows of Bridging Y/N..: No

(REAL) DEFLECTION

Allowed deflection under live and snow load..... = 19.20 mm (L/ 360)
Calculated deflection under combined loads (L + 0.9S) = 8.08 mm (L/ 855)
Use of the joist (Ref. S16-09, art.16.5.1)..... = Roof

End of multiple loads

F O R C E S I N M E M B E R S [kN]

(THE SHOWN FORCES ARE FACTORED)

Gap.....: 25.4 / 34.925 (Fy = 380 MPa U/N) (Eff. depth = 574.27 mm)

Left Reaction = 33.27/ -2.00 kN Right Reaction = 64.28/ -2.78 kN

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
			Top Chord					
1.1	9.90	-60.84	LL 2 x 2 x 1/4	z 73	0.35	861		
1.2	9.61	-56.97	do	z 68	0.36	750		
1.3	11.55	-93.18	do	z 61	0.37	675		
1.4	11.55	-93.18	do	z 55	0.39	610		
1.5	12.28	-110.19	do	z 55	0.40	do		
1.6	12.28	-110.19	do	z 55	0.43	do		
1.7	11.50	-98.23	do	z 55	0.43	610		
1.8	11.50	-98.23	do	z 61	0.76	675		
1.9	9.52	-59.13	LL 2 x 2 x 1/4	z 68	0.93	750		
1.10	9.95	-59.86	LL 4 x 4 x 3/8	z 36	0.85	861		
1.11	0.00	0.00	LL 4 x 4 x 3/8	z 60	0.85	1205		
			Bottom Chord					
2.1	0.00	0.00	LL 1 1/2 x 1 1/2 x 1/8	z 156	0.60	1225		
2.2	72.81	-4.21	do	z 127	0.78	1061		
2.3	105.06	-5.82	do	z 146	0.81	1220		
2.4	108.23	-5.79	do	z 146	0.81	1220		
2.5	79.02	-4.15	do	z 127	0.80	1061		
2.6	0.00	0.00	LL 1 1/2 x 1 1/2 x 1/8	z 156	0.66	1225		

F O R C E S I N M E M B E R S (Cont.) [kN]

No	Tension	Compres.		REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
	End Diagonal								
3.1	65.39	-3.88		SB 1 (50W)	z 180	0.33	1319	6.35 - 38	
3.2	65.89	-6.79		SB 1 (50W)	z 180	0.33	1319	6.35 - 38	
	Diagonal Towards End								
4.1	27.55	-1.56		U 1 x 7/8 x 0.091	z 123	0.59	903	2.30 - 39	
4.2	11.09	-2.55		do	z 116	0.24	856	2.30 - 38	
4.3	9.45	-4.16		do	z 116	0.29	856	do	
4.4	27.06	-1.58		U 1 x 7/8 x 0.091	z 123	0.58	903	2.30 - 38	
	Diagonal Towards Center								
5.1	1.69	-28.47	d	U 1 3/8 x 1 1/4 x 0.118	z 63	0.68	713	3.00 - 38	
5.2	1.03	-18.55		U 1 x 0.091	z 91	0.96	856	2.29 - 38	
5.3	1.16	-18.80		U 1 x 0.091	z 91	0.97	856	2.29 - 38	
5.4	2.01	-39.75	d	U 1 3/8 x 1 1/4 x 0.118	z 63	0.95	713	3.00 - 43	
	Secondary Web Member								
7.1	0.53	-9.03		U 1 x 7/8 x 0.091	z 96	0.45	702	2.30 - 25	
7.2	0.37	-8.63		do	z 82	0.35	600	do	
7.3	0.35	-9.51		do	z 82	0.39	do	do	
7.4	0.36	-9.51		U 1 x 7/8 x 0.091	z 82	0.39	600	2.30 - 25	
7.5	22.22	-5.32	i	U 1 3/8 x 1 1/4 x 0.118	z 62	0.24	702	3.00 - 38	

BRIDGING

Maximum spacing between rows of bridging

				Lateral Supports
@ Top Chord:	5342.92 ==>	1 Row(s)	Minimum	Deck (304.8)
@ Bottom Chord:	4400.87 ==>	3 Row(s)	Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	3481	1200
		3481
		5762

v1.43.0

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)
Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
Hole: Top Chord with Holes at Conc. Loads
Definition of the categories (Cat.):
4 = anywhere along the joist
Chord: 1 = Top, 2 = Bottom
Inclination (Incl.): 90 = Vertical, 0 = Horizontal

PARTIAL LOADS
Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
Chord: 1 = Top, 2 = Bottom
Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live 8 = Snow

The Web-Fitting has Problems

This mark has been edited

GENERAL NOTES:

1. WHEN THE STEEL DECK IS WELDED, STRUCTURAL SUPPORTS MUST HAVE A MINIMUM THICKNESS EQUAL TO 2.5 TIMES THE TOTAL THICKNESS OF THE STEEL DECK TO BE WELDED AND A MINIMUM WIDTH OF 38mm (1 1/2") WHERE THE WELD WILL BE ACHIEVED. OTHERWISE, THE STEEL DECK MUST BE MECHANICALLY ATTACHED USING AN APPROPRIATE CONNECTOR. (EX.: NAILS OR SCREWS)
2. THE STEEL DECK SHEETS ARE MADE OF STRUCTURAL GRADE STEEL WITH ZINC COATING ACCORDING TO THE REQUIREMENTS OF ASTM A653M. THE STEEL DECK SHEETS ARE DESIGNED ACCORDING TO THE REQUIREMENTS OF CAN / CSA-S136-12, CAN / CSA-S100-12, CSSBI-10M-13, 12M-15 AND 20M-15.
3. FOR OPENINGS OF 150mm (6") OR LESS ACROSS THE FLUTES, NO REINFORCEMENT IS NECESSARY PROVIDED THAT NO MORE THAN TWO VERTICAL WEBS ARE REMOVED. FOR OPENINGS OF MORE THAN 150mm (6") ACROSS THE FLUTES, PROVIDE SUITABLE REINFORCEMENT BASED ON STRUCTURAL ANALYSIS OF THE LOADS INVOLVED BY THE STRUCTURAL ENGINEER OF THE PROJECT.
4. ALL WELDS TO BE PAINTED WITH GALVACON. (NOT PROVIDED BY CANAM GROUP Inc.)
5. CANAM GROUP Inc. INCLUDES THE SERVICE OF CHECKING THE STEEL DECK GAUGE ONLY UNDER GRAVITY LOADS SHOWN ON THE STRUCTURAL DRAWINGS. ACCORDING TO STANDARD CAN / CSA S16-14 CLAUSE 4.2.2(f) AND CSSBI SSF-28, THE STRUCTURAL ENGINEER OF THE PROJECT IS RESPONSIBLE FOR THE STEEL DECK DIAPHRAGM DESIGN. THE STEEL DECK FASTENING PATTERNS SHOWN ON PLANS WERE PROVIDED BY THE STRUCTURAL ENGINEER OF PROJECT STRUCTURE REMAIN ITS RESPONSABILITY.

CONTRACTOR NOTES:

CANAM GROUP Inc. STEEL DECK IS PRODUCED FROM PRIME MATERIAL AS PER APPROVED DRAWINGS. THE DECK IS SHIPPED TO THE JOB SITE IN DRY AND CLEAN CONDITION, READY FOR INSTALLATION.

GENERAL CONTRACTOR IS RESPONSIBLE FOR DECK STORAGE ON THE JOBSITE AS PER CSSBI 10M-13 AND 12M-15 STANDARDS.

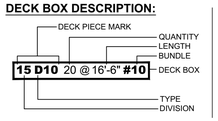
WARNING: ZF75 GALVANNEAL COATING CAN DISCOLOR DUE TO HIGH HUMIDITY, TEMPERATURE CYCLING, OR SITE STORAGE, DISCOLORATION DOES NOT AFFECT THE STRUCTURAL INTEGRITY OF THE PRODUCT AND CAN BE PRIMED OR PAINTED IF NECESSARY FOR AESTHETIC PURPOSES. GREEN BUILDING / LEED CERTIFICATION REQUIREMENTS MAY RESTRICT CERTAIN TYPES OF PAINTS TO BE APPLIED ON SITE. GENERAL CONTRACTOR IS TO MAKE SURE THE DECK PROPERLY PROTECTED AS PER CANAM GROUP Inc. WARNING LABEL. REFER TO CSSBI 10M-13 (SECTION 8.10) AND 12M-15 (SECTION 7.11) STANDARDS FOR CONFIRMATION OF THE ABOVE NOTES.

CANAM GROUP Inc. IS NOT RESPONSIBLE AND WILL NOT ACCEPT ANY CHARGES FOR PRIMING OR PAINTING ON SITE.

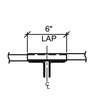
APPROVAL NOTES: (IF APPLICABLE)

1. PLEASE REVIEW THESE DRAWINGS CAREFULLY, IT REPRESENTS OUR INTERPRETATION OF THE CONTRACT DOCUMENTS.
2. SUBSEQUENT CHANGES TO INFORMATION SHOWN ON THESE DRAWINGS AFTER FIRST SUBMISSION COULD BE CONSIDERED AS CONTRACT CHANGES. IF CONSIDERED A CONTRACT CHANGE THE ARCHITECT / ENGINEER SHOULD BE INFORMED IN WRITING.
3. UNLESS NOTED TO THE CONTRARY ON THESE DRAWINGS WHEN RETURNED FROM APPROVAL, IT WILL BE CONSIDERED THAT THE INFORMATION SHOWN HEREIN HAS BEEN ACCEPTED BY ALL PARTIES.
4. ACCORDING TO STANDARD CAN / CSA S16-14 CLAUSE 4.2.2(f) AND CSSBI SSF-28 THE STEEL DECK DIAPHRAGM AND FASTENING PATTERN NEED TO BE DESIGNED AND PROVIDED BY THE STRUCTURAL ENGINEER OF THE PROJECT.
5. TO MEET DELIVERY REQUIREMENTS THIS PROJECT WILL BE ISSUED FOR FABRICATION WITH THIS RETURNED APPROVAL. DECK REINFORCING OR ADDITIONAL MATERIAL REQUIRED DUE TO MISSING LOADS SUCH AS SNOW LOADING RECEIVED AFTER ISSUE FOR FABRICATION WILL BE CONSIDERED AT OWNERS EXPENSE.
6. APPROVER TO CONFIRM OR SUPPLY ALL CLOUDED INFORMATION WHERE SHOWN ON PLAN.

DECK BOX DESCRIPTION:



END LAP DETAIL:



SIDE LAP CONNECTIONS:

TYPE OF JOINT	PROFILE	CONNECTOR AT SIDE LAP	CONNECTOR AT SUPPORT
INTERLOCK JOINT ***	● P-3615 ● P-2436 ● P-3623 ● P-2432	● BUTTON PUNCH ● WELD	● WELD* ● POWER DRIVEN FASTENER ● SCREW
OVERLAPPING JOINT 0°	● P-3606 ● P-2404 ● P-3012	● SCREW ● WELD**	

* WELDS AT SUPPORT REQ. WELDING WASHERS WHEN DECK THICKNESS IS < 0.71mm
** WELDING OF SIDE-LAPS IS NOT RECOMMENDED FOR MATERIAL ≤ 0.71mm
*** AT SUPPORTS, STEEL DECK TO BE CONNECTED EACH SIDE OF THE INTERLOCKING JOINT. IF WELDED, 1 x 20mm(3/4") DIAMETER SPOT WELD IS REQUIRED ON THE MALE END AND 2 x 16mm(5/8") DIAMETER SPOT WELDS ON THE FEMALE END.

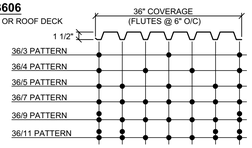
DECK FASTENING PATTERN AT SUPPORT:

IN CASE OF MECHANICAL FASTENERS TO SUPPORTS, THE ERECTOR IS TO FOLLOW THE MANUFACTURERS SPECIFICATION. IN THE CASE OF WELDED FASTENERS, THE ERECTOR SHALL TAKE CARE IN THE SELECTION OF ELECTRODES AND AMPERAGE TO PROVIDE POSITIVE TIE TO THE SUPPORT WITHOUT CAUSING ANY HIGH AMPERAGE BLOW HOLES.

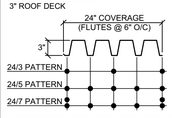
WHEN STEEL DECK IS CONNECTED WITH HILTI PINS, USE THE PIN WITH THE BIGGEST DIAMETER BETWEEN THE ONE OF THE FASTENING PATTERN (SEE PLAN) AND THE ONE OF THIS TABLE : (REF. : HILTI - DECK FASTENING TRAINING GUIDE)

MATERIAL THICK. (t)	PINS
1/8"(3mm) ≤ t ≤ 3/8"(10mm)	X-HSN 24
t > 1/4" (6mm)	X-ENP-19 L15

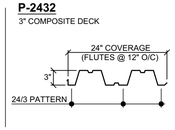
P-3615 & P-3606
1 1/2" COMPOSITE OR ROOF DECK



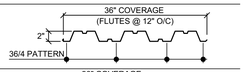
P-2404 & P-2436
3" ROOF DECK



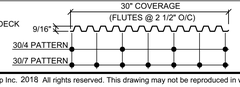
P-2432
3" COMPOSITE DECK

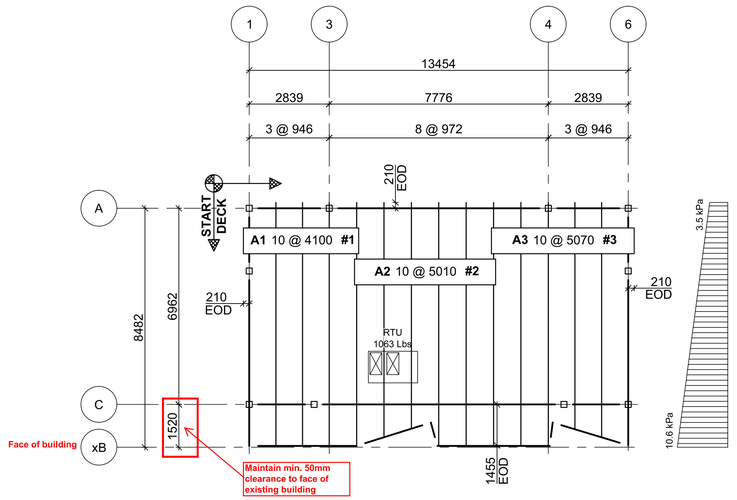


P-3623
2" COMPOSITE DECK



P-3012
9/16" FORM DECK





ROOF DECK FRAMING PLAN

REFERENCE DWG: S100 REV. 1

1. U/S DECK ELEVATION : 3600mm U.N.O. ON PLAN. HIGH POINT
2. UNIFORM ROOF LOADS:
   - DEAD = 1.45 kPa
   - LIVE = 3.5 kPa + SNOW DRIFT

DECK FASTENING PATTERN

BUTTON PUNCH @ 150 o/c
36/9 FASTENER PATTERN
19mm PUDDLE WELDS TO SUPPORTING MEMBERS
FASTENER SPACING AROUND PERIMETER & OPENINGS TO BE 150 o/c
DECK BE 3 SPAN MINIMUM

SHOP DRAWING REVIEW
REVIEWED ☐
REVIEWED AS NOTED ☑
REVISE AND RESUBMIT ☐
HOBIN ARCHITECTURE

"This review is for the sole purpose of ascertaining conformance with the general design concept for architectural features only, and does not in any way constitute review of the design of engineering elements which form part of the Contract Documents prepared by others. This review shall not mean that the Architect approves the detail design inherent in the shop drawings. This responsibility shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes, or to techniques of construction and installation and for co-ordination for the work of all trades."

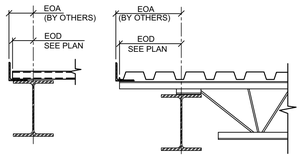
By: Reinhard Vogel Date: 10/22/2018
HOBIN ARCHITECTURE INCORPORATED

SHOP DRAWING REVIEW
CUNLIFFE & ASSOCIATES
This review is for the sole purpose of determining general conformance with the Structural Drawings. This review does not mean that Cunliffe & Associates approves the detail design inherent in the shop drawings. The responsibility for which remains with the Contractor submitting the shop drawings. Our review does not relieve the contractor of his responsibility for errors or omissions in the shop drawings or meeting the requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site and information that pertains solely to fabrication processes or to techniques of construction installation and for co-ordination of the work of all subtrades.
☐ REVIEWED AS NOTED
☒ REVIEWED
☐ RESUBMIT
CHK'D BY NH
DATE 10/22/18

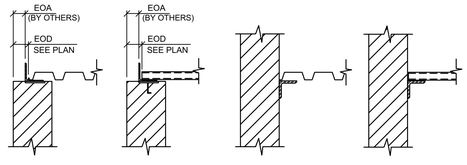
FOR APPROVAL ONLY
DON'T USE FOR CONSTRUCTION OR FOR ERECTION

STANDARD / TYPICAL EDGE OF DECK CONDITIONS

NOTE: CLOSURE ANGLES AND EMBEDDED MATERIALS MAY VARY DEPENDING ON PROJECT SPECIFICATIONS. REFER TO STRUCTURAL DRAWINGS OR CANAM GROUP Inc. DETAILS FOR MORE SPECIFIC INFORMATION IF REQUIRED.



EDGE OF DECK AT PERIMETER ANGLE
1. CLOSURE ANGLES BY OTHERS



EDGE OF DECK AT CONCRETE / BLOCK WALL
1. EMBEDDED MATERIALS BY OTHERS

DECK GAUGE & FINISH

MARK	CANAM DECK TYPE	GAUGE	FINISH	COVER
A	P3615 - 38mm	18GA	GALVD	914

LEGEND

BS	---	BUTT STRIP
C/C	---	CENTER TO CENTER
CL	---	COLUMN CLOSURE
(±A)	---	CHANGE IN ELEVATION
CS	---	CLOSURE STRIP
EOA	---	EDGE OF ANGLE
EOD	---	EDGE OF DECK
EOS	---	EDGE OF SLAB
FOW	---	FACE OF WALL
GALVD	---	G90 / Z-275
LZC	---	A25 / ZF-75
MCS	---	METAL CLOSURE SMALL
MCL	---	METAL CLOSURE LARGE
O/A	---	OVER ALL
PS	---	POUR STOP
RTU	---	ROOF TOP UNIT
RCL	---	RIDGE CLOSURE LARGE
RCS	---	RIDGE CLOSURE SMALL
RV	---	RIDGE & VALLEY
SC	---	SUPPORT CHANNEL
SIM	---	SIMILAR
TOS	---	TOP OF STEEL
TYP.	---	TYPICAL
U/S	---	UNDER SIDE
UNO	---	UNLESS NOTED OTHERWISE
VIF	---	VERIFY IN FIELD
ZS	---	Z - CLOSURE
ZES	---	"Z" EDGE STRIP

REVISION NO:	DATE:	DESCRIPTION
A	Oct-18-2018	ISSUED FOR APPROVAL ONLY

CANAM GROUP Inc. ENGINEER SEAL(S):
A. SAVOIE 100140844 PROVINCE OF ONTARIO
2018-10-18

This drawing is to be used for the erection of steel deck and related Accessories supplied by Canam Group Inc.. Engineer's stamp is for steel deck only.

CANAM
ST. GEDEON (QC) 1-888-849-5910 - email: gedeon.draw@canamgroupinc.com
MISSISSAUGA (ON) 1-800-446-8897 - email: toronto.drafting@canamgroupinc.com
MONCTON (NB) 1-800-210-7833 - email: moncton.draw@canamgroupinc.com
CALGARY (AB) 1-866-203-2001 - email: calgary.drafting@canamgroupinc.com

PROJECT NAME:	TURNBULL MUSIC ROOM ADDITION
LOCATION:	OTTAWA, ON
TITLE:	ROOF DECK FRAMING PLAN
CUSTOMER:	FORTRAN STEEL INC
ENGINEER:	

DRAWN BY:	PLANT:	DRAWING NO:
IDO/AG	MONCTON	DE1
DATE: Oct-03-2018	PROJECT #: U07664	

GENERAL NOTES:

1. ALL PRODUCTS PROVIDED BY CANAM GROUP Inc. IN CONNECTION WITH THIS DRAWING ARE SUBJECT TO CANAM GROUP Inc. STANDARD TERMS AND CONDITIONS FOR JOIST SALES. BY ACCEPTING THE PRODUCT, THE PURCHASER ACKNOWLEDGES THAT THEY HAVE RECEIVED AND REVIEWED THESE TERMS AND CONDITIONS.
2. MINIMUM DESIGN REQUIREMENTS TO BE PER CAN/CSA S16.0 STANDARD (AND CSSBI SPECIFICATION WHEN DECK IS SUPPLIED BY CANAM GROUP Inc.) LATEST EDITION, UNLESS OTHERWISE NOTED HEREIN.
3. PAINT: GREY PRIMER U.N.O. ON PLAN (SPECIFICATIONS PROVIDED UPON REQUEST)
4. THE ISSUANCE OF THIS DRAWING DOES NOT CONSTITUTE THE ACCEPTANCE OF A CUSTOMER'S ORDER.
5. THE DESIGN IS BASED UPON LOAD INFORMATION SPECIFICALLY SUBMITTED TO CANAM GROUP Inc.. NO SPECIAL LOADS OR OTHER FORCES HAVE BEEN PROVIDED FOR UNLESS PURCHASER HAS REQUESTED THEM IN WRITING. SUCH SPECIAL LOADS OR OTHER FORCES SHALL INCLUDE, WITHOUT LIMITATION: UPLIFT, CONCENTRATED LOADS FROM ROOF TOP UNITS, AXIAL LOADS FROM KICKER ANGLES, ETC.
6. CANAM GROUP Inc. ERECTION DRAWINGS HEREIN WERE PREPARED USING THE STRUCTURAL PORTION OF THE CONTRACT DRAWINGS AS ITS PRIMARY GUIDE USING THE ARCHITECTURAL DRAWINGS (WHEN PROVIDED) ONLY FOR MISSING INFORMATION OR FOR CLARIFICATION. CANAM GROUP Inc. DOES NOT ACCEPT ANY RESPONSIBILITY FOR DISCREPANCIES BETWEEN THE STRUCTURAL AND ARCHITECTURAL DRAWINGS.

CONTRACTOR NOTES:

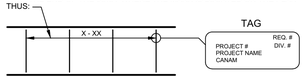
1. OWSJ TOP CHORDS AND SEAT WIDTHS MAY VARY.
2. FOR A COMPLETE PACKAGE OF CANAM GROUP Inc. STANDARDS & CONNECTION DETAILS GO TO " www.canamgroupinc.com " OR CONTACT YOUR CANAM GROUP Inc. OFFICE.
3. CONFIRM ALL JOIST SHOE DEPTHS WITH CANAM GROUP Inc. PRIOR TO DETAILING OF SUPPORTING STEEL.
4. REVIEW ENCLOSED LAYOUT FOR CONFORMANCE AND CONNECTION METHODS. INFORM CANAM GROUP Inc. OF ANY MISINTERPRETED CONNECTION DETAILS OR DIMENSIONAL DISCREPANCIES TO ENSURE AS BUILT CONDITIONS ARE SATISFIED.
5. CONTRACTOR TO CONFIRM OR SUPPLY ALL CLOUDED INFORMATION WHERE SHOWN ON PLAN.

APPROVAL NOTES: (IF APPLICABLE)

1. PLEASE REVIEW THESE DRAWINGS CAREFULLY, IT REPRESENTS OUR INTERPRETATION OF THE CONTRACT DOCUMENTS.
2. THE GENERAL CONTRACTOR IS TO INFORM CANAM GROUP Inc. OF ANY INTERFERENCE BETWEEN MECHANICAL UNITS, DUCTWORK AND JOIST/BRIDGING.
3. SUBSEQUENT CHANGES TO INFORMATION SHOWN ON THESE DRAWINGS AFTER FIRST SUBMISSION COULD BE CONSIDERED AS CONTRACT CHANGES. IF CONSIDERED A CONTRACT CHANGE THE ARCHITECT / ENGINEER SHOULD BE INFORMED IN WRITING.
4. UNLESS NOTED TO THE CONTRARY ON THESE DRAWINGS WHEN RETURNED FROM APPROVAL, IT WILL BE CONSIDERED THAT THE INFORMATION SHOWN HEREIN HAS BEEN ACCEPTED BY ALL PARTIES.
5. TO MEET DELIVERY REQUIREMENTS THIS PROJECT WILL BE ISSUED FOR FABRICATION WITH THIS RETURNED APPROVAL. JOIST REINFORCING OR ADDITIONAL MATERIAL REQUIRED DUE TO MISSING LOADS SUCH AS MECHANICAL UNITS AND SPRINKLER INFORMATION RECEIVED AFTER ISSUE FOR FABRICATIONS WILL BE CONSIDERED AT OWNERS EXPENSE.
6. APPROVER TO CONFIRM OR SUPPLY ALL CLOUDED INFORMATION WHERE SHOWN ON PLAN.
7. ESFR SPRINKLER SYSTEMS - DOCUMENTS INCLUDING DIMENSIONED LOCATIONS OF ALL SPRINKLER LINES TO BE PROVIDED TO CANAM GROUP Inc. TO ENSURE INTERFERENCE REQUIREMENTS ARE RESPECTED. IF THIS CANNOT BE PROVIDED WHEN FABRICATION COMMENCES, CANAM GROUP Inc. WILL PROVIDE THE REQUIRED DOCUMENTS SHOWING THE EXACT LOCATIONS OF ALL MEMBERS INCLUDED.

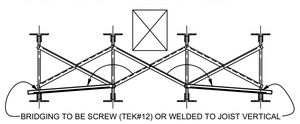
ERECTOR NOTES:

1. THIS DRAWING IS TO BE USED ONLY FOR THE ERECTION OF PRODUCTS SUPPLIED BY CANAM GROUP Inc. AS INDICATED BY AN ERECTION MARK ON THE PLANS AND/OR SECTIONS.
2. CANAM GROUP Inc. IS NOT RESPONSIBLE FOR THE HANDLING AND ERECTION OF MATERIALS IT SUPPLIES. THE DESIGN AND MANUFACTURE OF THE MATERIALS ASSUMES THAT THEY ARE HANDLED IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. CANAM GROUP Inc. IS NOT RESPONSIBLE FOR ANY MISHANDLING OR FAILURE TO PROPERLY ERECT THE MATERIALS.
3. CANAM GROUP Inc. HAS NOT EXAMINED ANY FIELD CONDITIONS AND ASSUMES NO RESPONSIBILITY FOR ANY SITE CONDITIONS. THE PURCHASER MUST NOTIFY CANAM GROUP Inc. OF ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND CANAM GROUP Inc. FILE AND FIELD USE DRAWINGS.
4. ANY MODIFICATION OF MATERIAL SUPPLIED BY CANAM GROUP Inc. WITHOUT PRIOR WRITTEN CONSENT WILL AUTOMATICALLY RELEASE CANAM GROUP Inc. FROM ALL LIABILITY WITH RESPECT TO SUCH MATERIAL.
5. OWSJ MUST BE PERMANENTLY FASTENED IN PLACE AND BRIDGING ATTACHED BY WELDING OR BOLTING AS SHOWN BEFORE ANY CONSTRUCTION LOADS ARE APPLIED. ALL FIELD WELDING TO BE CARRIED OUT BY WELDERS APPROVED BY C.W.B. TO THE REQUIREMENTS OF C.S.A. -W47 AND W59
6. BOLTED CONNECTIONS (BRIDGING AND JOISTS) SHALL BE "SNUG TIGHT". THE 2004 RCSC SPECIFICATION DEFINES IT AS A JOINT IN WHICH THE BOLTS HAVE BEEN INSTALLED IN ACCORDANCE WITH SECTION 8.1. NOTE THAT NO SPECIFIC LEVEL OF INSTALLED TENSION IS REQUIRED TO ACHIEVE THIS CONDITION, WHICH IS COMMONLY ATTAINED AFTER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH. THE PLIES SHOULD BE IN FIRM CONTACT. A CONDITION THAT MEANS THE PLIES ARE SOLIDLY SEATED AGAINST EACH OTHER, BUT NOT NECESSARILY IN CONTINUOUS CONTACT.
7. BACK CHARGES FOR REPAIRS OR ALTERATION TO CANAM GROUP Inc. PRODUCTS WILL NOT BE ACCEPTED UNLESS APPROVED PRIOR BY CANAM GROUP Inc..
8. JOISTS TO BE ERECTED SO THAT THE METAL TAG AT ONE END CORRESPONDS WITH THE END OF THE JOIST WHERE THE MARK IS LOCATED ON THE PLAN THUS:



BRIDGING INTERFERENCE/REMOVAL

1. REMOVE BRIDGING FROM LOCATION OF DESIRED OPENING.
2. RELOCATE REMOVED BRIDGING MEMBERS AS SHOWN BELOW.
3. BOLT BRIDGING @ JOIST BOTTOM CHORD NEAR OPENING AND FIX THE OTHER END TO ADJACENT JOIST AS PER PICTURE BELOW.



BRIDGING TO BE SCREW (TEK#12) OR WELDED TO JOIST VERTICAL

MAX. JOIST SPACING	MIN. HORIZ. BRIDGING SIZE
≤ 1720 / 5' - 7"	L 1¼" x 1¼"
≤ 2240 / 7' - 4"	L 1½" x 1½"
≤ 2620 / 8' - 7"	L 1¾" x 1¾"
≤ 2970 / 9' - 9"	L 2" x 2"

- IF SPACING IS GREATER THAN SHOWN, CONTACT CANAM GROUP Inc.
- SIMILAR CONCEPT TO BE APPLIED FOR WELDED BRIDGING

GENERAL JOIST/GIRDER SHOE INFORMATION:

NOTE: ALL ENCLOSED DETAILS AND INFORMATION MUST BE VERIFIED ON PLAN IF NOTED OTHERWISE. DETAILS ARE INTENDED AS STANDARD BUT MAY VARY WITH SPECIFIC CONTRACTOR, PROJECTS AND/OR CONDITIONS. ANY DISCREPANCIES BETWEEN GENERAL INFORMATION AND THE PLAN, THE PLAN WILL BE CONSIDERED AS CORRECT.

CANAM STANDARD CONNECTION DETAILS

TO ACCESS THE CANAM STANDARD CONNECTION DETAILS, CLICK ON THE FOLLOWING INTERNET LINK OR SCAN THE QR CODE

PDF https://www.canam-construction.com/wp-content/uploads/2014/12/compleconnectiondetails.pdf

DWG https://www.canam-construction.com/wp-content/uploads/2014/12/en-joist-girder-details-pdf.dwg

.PDF .DWG

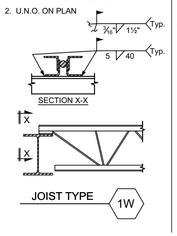
STANDARD GAUGES - CANAM

1. WHEN ONE JOIST BEARS AT THE JUNCTION OF TWO DIFFERENT BEAMS, THE SMALLER GAUGE IS TO BE USED.
2. DESIGN CONDITIONS CAN DICTATE VARIANCES FOR THESE CONNECTIONS. FOR COORDINATION CONTACT CANAM GROUP Inc.
3. USE A325 3/4" Ø BOLTS TYP. U.N.O.

FLANGE WIDTH FROM 4"(100) - 4 ½" (124)	2 ½" (58 mm)
FLANGE WIDTH FROM 5"(127) - 5 ½"(148)	2 ¾" (70 mm)
FLANGE WIDTH FROM 6"(150) - 13 ⁹⁄₁₆" (348)	4" (102 mm)
FLANGE WIDTH EQUAL OR OVER 13 ¾" (349)	6" (152 mm)

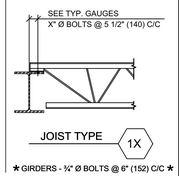
STANDARD WELDED SHOE

1. ONLY IF APPLICABLE - SEE PLAN
2. U.N.O. ON PLAN



STANDARD BOLTED SHOE

1. ONLY IF APPLICABLE - SEE PLAN
2. U.N.O. ON PLAN
3. BOLTS NOT SUPPLIED BY CANAM GROUP Inc..



★ GIRDERS - ¾" Ø BOLTS @ 6" (152) C/C ★

STANDARD BRIDGING DETAILS:

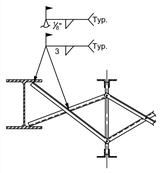
IMPORTANT NOTE: SEE PLAN FOR ADDITIONAL BRIDGING/BRACING DETAILS AND INSTRUCTIONS IF APPLICABLE.

TYP. BOLTED BRIDGING

1. ONLY IF APPLICABLE - SEE PLAN
2. CANAM GROUP Inc. WILL PROVIDE MATERIAL SPECIFICATIONS UPON REQUEST.
3. LOCATIONS OF X-BRIDGING NOT TO BE SCALED ON PLAN, EXACT LOCATIONS CAN BE REQUESTED IF REQUIRED.

JOIST TO BEAM

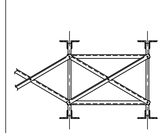
SHOWN THUS : ### ## SETS ### ###



END BAY - JOIST TO JOIST

SHOWN THUS : ## SETS ### ### ###

★ BOLTS BY CANAM GROUP Inc. ★

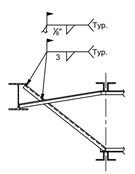


TYP. WELDED HORIZONTAL BRIDGING

1. SEE PLAN FOR MATERIAL SIZES AND SPECIFICATIONS.
2. SEE PLAN FOR LOCATIONS OF WELDED HORIZONTAL BRIDGING. DO NOT SCALE THE PLAN.
3. HORIZONTAL BRIDGING CAN BE REQUIRED ON THE TOP AND/OR BOTTOM CHORDS. SEE PLAN SHOWN THUS: T & B
4. BRIDGING SPLICE/LAP TO BE MAXIMUM 100 mm (4").
5. QUANTITIES OF HORIZONTAL BRIDGING DETERMINED USING (O/A LENGTH (x) # ROWS) (+) 4%)

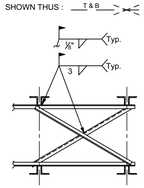
JOIST TO BEAM

SHOWN THUS : T & B



END BAY - JOIST TO JOIST

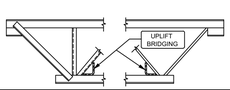
SHOWN THUS : T & B



TYP. WELDED HORIZONTAL UPLIFT BRIDGING

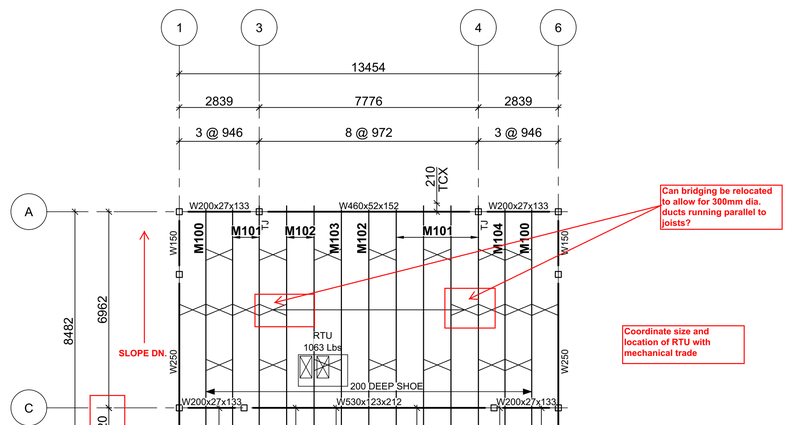
1. SEE PLAN FOR MATERIAL SIZES AND SPECIFICATIONS.
2. SEE PLAN FOR LOCATIONS OF WELDED HORIZONTAL UPLIFT BRIDGING. LOCATED AT FIRST AND LAST PANEL POINTS TYP. U.N.O. ON PLAN.
3. FOR INSTALLATION PROCEDURE SEE "TYP. WELDED HORIZONTAL BRIDGING" DETAILS ABOVE AND SUBTRACT TOP ROW EXCEPT AT JOIST TO JOIST END BAYS.

SHOWN THUS : — B — OR : — B



BRIDGING BUNDLING

X = REPRESENT BRIDGING BUNDLES



ROOF JOIST FRAMING PLAN

REFERENCE DWG: S100 REV. 1

1. U/S DECK ELEVATION : 3600mm U.N.O. ON PLAN.
2. STANDARD SHOE DEPTH IS 100mm TYP.U.N.O..
3. 600mm DEEP O.W.S.J. TYP. U.N.O..
4. TIE JOIST CONNECTIONS ARE (7X) TYP. U.N.O..
5. REGULAR JOIST CONNECTIONS ARE TYPE (1X) TYP. U.N.O..
6. JOIST CONNECTIONS SHOWN ARE CANAM GROUP Inc. STANDARDS TYP. U.N.O..
7. REGULAR BRIDGING TO BE - BOLTED CROSS
8. UPLIFT BRIDGING TO BE - BOLTED CROSS
9. ALL COLUMNS SUPPORTING JOISTS/GIRDERS ARE HSS152x152 TYP. U.N.O.

SHOP DRAWING REVIEW
CUNLIFFE & ASSOCIATES

This review is for the sole purpose of determining general conformance with the Structural Drawings. This review does not mean that Cunliffe & Associates approves the detail design inherent in the shop drawings. The responsibility for which remains with the Contractor submitting the shop drawings. Our review does not relieve the contractor of his responsibility for errors or omissions in the shop drawings or meeting the requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site and information that pertains solely to fabrication processes or to techniques of construction installation and for co-ordination of the work of all subtrades.

☐ REVIEWED AS NOTED
☒ REVIEWED
☐ RESUBMIT

CHK'D BY NH
DATE 10/22/18

FOR APPROVAL ONLY
DON'T USE FOR CONSTRUCTION OR FOR ERECTION

SHOP DRAWING REVIEW

REVIEWED ☐
REVIEWED AS NOTED ☑
REVISE AND RESUBMIT ☐

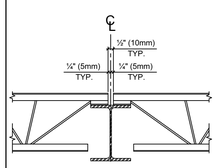
HOBIN ARCHITECTURE

"This review is for the sole purpose of ascertaining conformance with the general design concept for architectural features only, and does not in any way constitute review of the design of engineering elements which form part of the Contract Documents prepared by others. This review shall not mean that the Architect approves the detail design inherent in the shop drawings. This responsibility shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes, or to techniques of construction and installation and for co-ordination for the work of all trades."

By: Reinhard Vogel Date: 10/22/2018
HOBIN ARCHITECTURE INCORPORATED

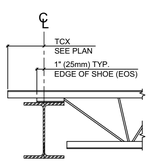
STANDARD TYPICAL OWSJ BEARING CONDITIONS

NOTE: TYPICAL UNLESS NOTED OTHERWISE ON PLAN OR SECTION DETAILS.



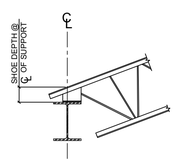
SHARED BEARING ON SUPPORTING BEAM:

1. EACH OWSJ REQUIRES A MIN. 2½" (65mm) OF BEARING ON SUPPORT.



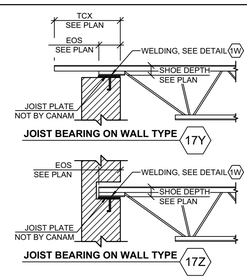
BEARING ON END BAY OR PERIMETER BEAM:

1. SHOE CONFIGURATION CAN VARY. VARY. VERIFY WITH TCX AS SHOWN ON PLAN.



SLOPING JOIST ON SUPPORT:

1. SUPPORTING MEMBER ELEVATION MUST MAKE ALLOWANCE FOR SUFFICIENT SHOE DEPTH WHEN TOP CHORD HAS SIGNIFICANT SLOPE.



LEGEND

BC	---	BOTTOM CHORD
BCX	---	BOTTOM CHORD EXTENSION
T	---	BRIDGING @ TOP ONLY
B	---	BRIDGING @ BOTTOM ONLY
T & B	---	BRIDGING @ TOP & BOTTOM
C/C	---	CENTER TO CENTER
(±XX)	---	CHANGE IN ELEVATION
EOD	---	EDGE OF DECK
EOS	---	EDGE OF SHOE
FOW	---	FACE OF WALL
F/S	---	FAR SIDE
(X)	---	JOIST CONNECTION TYPES
KB	---	KNEE BRACE
LBCX	---	LOOSE BOTTOM CHORD EXT.
N/S	---	NEAR SIDE
O/A	---	OVER ALL
(S=X)	---	SHOE DEPTHS
SIM	---	SIMILAR
TJ	---	TIE JOIST
TC	---	TOP CHORD
TCX	---	TOP CHORD EXTENSION
TOS	---	TOP OF STEEL
TYP.	---	TYPICAL
U/S	---	UNDER SIDE
UNO	---	UNLESS NOTED OTHERWISE
VIF	---	VERIFY IN FIELD

REVISION NO:	DATE:	DESCRIPTION
A	Oct-18-2018	ISSUED FOR APPROVAL ONLY

CANAM GROUP Inc. ENGINEER SEAL(S):

2018-10-18

These Joists hereon are designed and fabricate to: CAN/CSA S16-14, S136-12 & CNB 2010

This drawing is to be used for the erection of steel joist, deck and related Accessories supplied by Canam Group Inc.. Engineer's stamp is for joist design only.

CANAM

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MISSISSAUGA (ON) 1-800-446-8897 - email: toronto.drafting@canamgroupinc.com
MONCTON (NB) 1-800-210-7833 - email: moncton.draw@canamgroupinc.com
CALGARY (AB) 1-866-203-2001 - email: calgary.drafting@canamgroupinc.com

PROJECT NAME:	TURNBULL MUSIC ROOM ADDITION
LOCATION:	OTTAWA, ON
TITLE:	ROOF JOIST FRAMING PLAN
CUSTOMER:	FORTRAN STEEL INC
ENGINEER:	

DRAWN BY:	PLANT:	DRAWING NO:
IDO/AG	MONCTON	JE1
DATE: Oct-03-2018	PROJECT # U07664	