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Printed: 06:21:42 13 Feb 2020

MiTek 20/20 Engineering 4.7.334.0

PRODUCER STATEMENT for MiTek 20/20[®] TRUSS DESIGN - Version 4.7

ISSUED BY: **MiTek New Zealand Limited**

TO: **PlaceMakers - Frame & Truss**

IN RESPECT OF: **MiTek[®] Truss Designs**

This producer statement covers the MiTek 20/20[®] truss design and the structural performance of the GANG-NAIL[®] connector plate for the job reference **177446** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

The MiTek 20/20[®] truss design program has been developed by MiTek New Zealand Limited for the design of MiTek[®] timber roof, floor and attic trusses in New Zealand. The truss designs computed by MiTek 20/20[®] are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution, to satisfy the requirements of Clause B1 of the New Zealand Building Code.

On behalf of MiTek New Zealand Limited, and subject to:

- i) All proprietary products meeting their performance specification requirements
- ii) The provision of adequate roof bracing and overall building stability
- iii) Correct selection and placement of GANG-NAIL connector plates
- iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
- v) The design being undertaken by the accredited fabricator under the terms of the software licence
- vi) Timber is graded to the requirements of NZS 3603:1993
- vii) Minimum timber treatment for these MiTek[®] trusses shall be in accordance with B2/AS1 Table 1A and the relevant sections of NZS 3602:2003

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20[®] truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Limited holds a current policy of Professional Indemnity Insurance no less than \$500,000.

On behalf of MiTek New Zealand Limited,

Date: Thursday, 13 February 2020

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Limited

Job: 177446	Client: Placemakers Hornby	Site: Generation Homes- Lot 33a Branthwaite
Description: Building Consent No.: BC192253	Phone: MiTek New Zealand Limited	Generation Homes- Lot 33a Branthwaite
MiTek 20/20 Engineering 4.7.334.0		Lot 33a Branthwaite
		Rolleston
		Phone: 027-541-7067
		Printed: 06:21:42 13 Feb 2020

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **PlaceMakers - Frame & Truss**, being licensed to use the MiTek 20/20® software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20® TRUSS DESIGN DATA

The MiTek 20/20® computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the MiTek® trusses.

Job Details		Importance Level : 2		Design Working Life : 50 years	
Roof Truss					
Timber Group: CTF Pine		Pitch: 25.000 deg		Nominal Overhang: 600 mm	
Roof					
Material: Metal Tiles		Material: Rondo fixed to BC		Area: High (44.0 m/s)	
Dead Load: 0.210 kPa		Dead Load: 0.200 kPa		Pressure Coeff: Cpe = varies; Cpi = -0.30, 0.20	
Restraints: 400 mm centres		Restraints: 600 mm centres		Snow	
Live Load: Qur = 0.250 kPa		Live Load: Qc = 1.400 kN		Location: Christchurch (N4) at 100 m	
Qc = 1.100 kN				Open Ground Load: 0.900 kPa	
				Basic Roof Load: 0.441 kPa	

The minimum timber treatment for these MiTek® trusses shall be in accordance with B2/AS1 Table 1A and the relevant sections of NZS 3602:2003. The timber for these MiTek® trusses shall be graded to the requirements of NZS 3603:1993. Proprietary fixings and timber connectors shall be selected in accordance with NZS3604:2011 Section 4 - Durability.

MiTek® Truss List

Legend: * = detail only, ? = input only, ✕ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
GB = gable brace required, CF = Chemical Free Treatment

Roof Truss

Treatment: Top Chords - H1.2					Bottom Chords - H1.2					Webs - H1.2				
Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
*HB01	2	4662	18.249	900	J09A	1	1817	25.000	900	T01	1	4113	25.000	900
*HB02	1	5369	18.249	900	J10	1	3222	25.000	900	T02	1	6470	25.000	900
*HB03	2	1187	18.249	900	J10A	1	3222	25.000	900	T03	1	6470	25.000	900
*HB04	1	6522	18.249	900	J10B	1	3222	25.000	900	T04	1	4113	25.000	900
*HB05	2	3538	18.249	900	J11	1	1632	25.000	900	T05	1	8100	25.000	900
*HB06	2	3396	18.249	900	J12	1	2322	25.000	900	T06	2	8100	25.000	900
*HB07	2	5383	18.249	900	J12A	1	2322	25.000	900	T07	3	4928	25.000	900
*HB08	1	2078	18.249	900	J12B	1	2322	25.000	900	T08	1	3880	25.000	900
*HB09	1	2219	18.249	900	J13	2	1422	25.000	900	T09	1	3680	25.000	900
*HB10	1	1084	18.249	900	J13A	2	1422	25.000	900	T09A	1	3680	25.000	900
*HB11	1	798	18.249	900	J14	1	2525	25.000	900	T10	1	5800	25.000	900
J01	1	2712	25.000	900	J15	1	4028	25.000	900	T10A	1	5800	25.000	900
J01A	1	2712	25.000	900	*R01	2	1503	25.000	900	T11	1	5055	25.000	900
J01B	1	2712	25.000	900	*R02	20	891	25.000	900	T12	1	8100	25.000	900
J02	2	1812	25.000	900	*R03	3	901	25.000	900	T13	1	3880	25.000	900
J02A	1	1812	25.000	900	*R04	1	1103	25.000	900	T13A	1	3880	25.000	900
J02B	1	1812	25.000	900	*R05	1	1318	25.000	900	T14	1	2825	25.000	900
J03	1	2312	25.000	900	*R06	2	1608	25.000	900	T15	1	5800	25.000	900
J03A	1	2312	25.000	900	*R07	1	908	25.000	900	T16	1	6070	25.000	900
J04	1	1412	25.000	900	*R08	1	1508	25.000	900	T17	2	2825	25.000	900
J04A	1	1412	25.000	900	*R09	2	1113	25.000	900	T18	1	4028	25.000	900
J05	1	3127	25.000	900						T18A	1	4028	25.000	900
J05A	1	3127	25.000	900						TG01	1	5055	25.000	900
J06	1	2227	25.000	900						V01	2	685	25.000	900
J06A	1	2227	25.000	900						V02	1	1202	25.000	900
J07	1	1327	25.000	900						V03	1	2070	25.000	900
J07A	1	1327	25.000	900						V04	1	2149	25.000	900
J08	2	1917	25.000	900						V05	1	1249	25.000	900
J08A	1	1917	25.000	900						V06	1	1429	25.000	900
J09	2	1817	25.000	900						V07	1	783	25.000	900
										V08	1	1585	25.000	900

Roof Truss quantity : 121

Total quantity : 121

The computer design input has been carried out by:

Signed:

Date: ...Thursday, 13 February 2020....

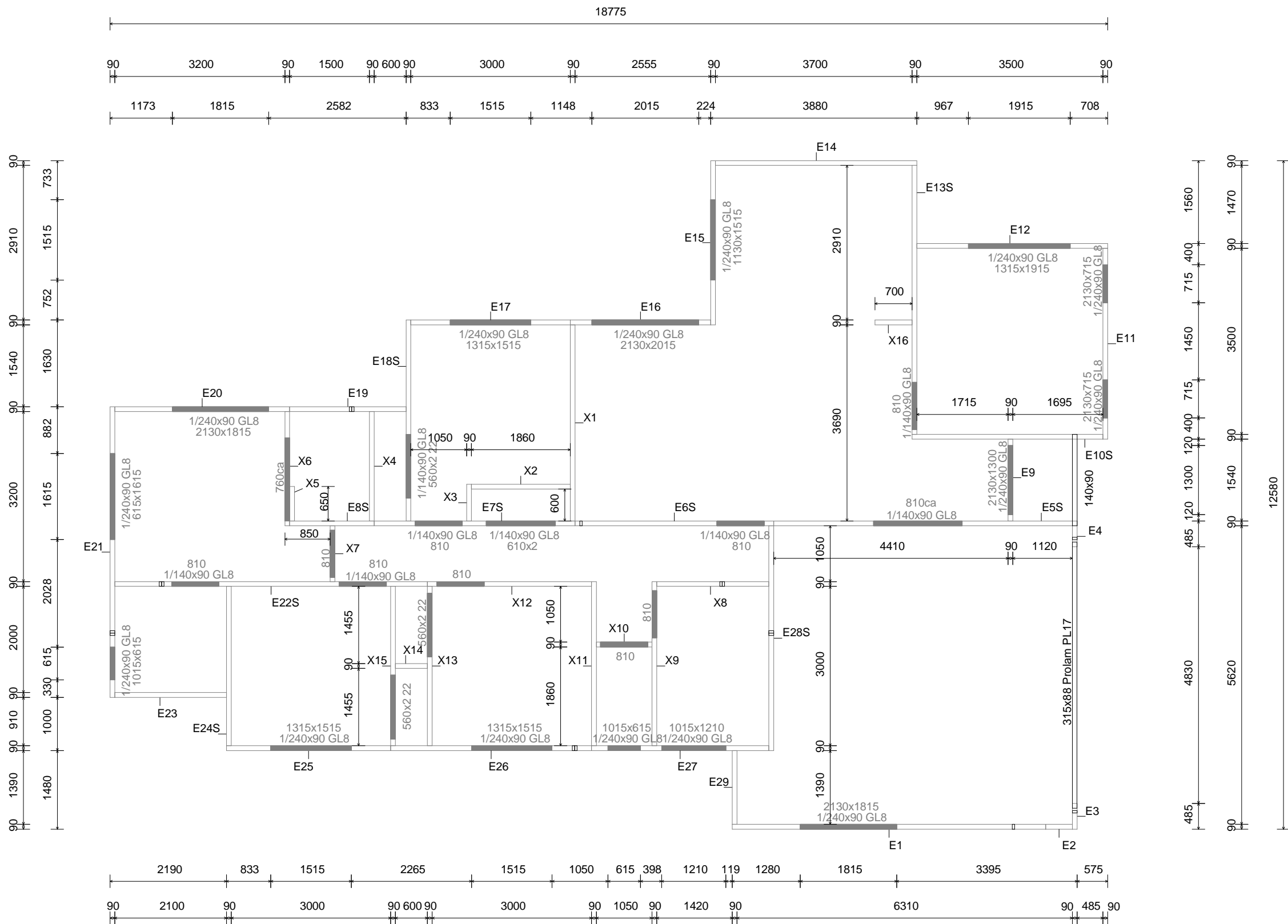
Name of Detailer: Leticia Hart

Qualifications and Title: Detailer

On behalf of:

PlaceMakers - Frame & Truss





These plans are provided solely to enable the builder to erect the prenil on site. They are not intended for any other purpose and PlaceMakers will not accept any liability arising from any other use of these plans.
PLEASE CONTACT PLACEMAKERS FRAME & TRUSS IF ANY ON SITE REMEDIAL WORK IS REQUIRED.
THERE WILL BE NO COMPENSATION FOR WORK DONE WITHOUT PLACEMAKERS FRAME & TRUSS WRITTEN AUTHORITY.

ALL WALLS WITH DOUBLE TOP PLATE DO NOT HAVE CEILING PLATE

Plates are skewed nailed to studs as per NZS 3604:2011.
All lintels not shown on plans have been sized from: Mitek Ganglam Lintels, Beams, Joists & Rafters, Mitek Flitch Beams, CHH Design IT, Hyne Design or Prowood software
PlaceMakers Frame & Truss provide this information as their recommendations only.
The recommended fixing systems in this wall framing layout may need additional fixings to comply with the building code NZS3604:2011.
All building contractors or their subcontractors are responsible for ensuring in particular areas "that appropriate additional fixings are fitted on site, where required, to ensure compliance" with the building code.
All building contractors or their subcontractors are responsible for checking frames are correct before the manufacture or installation of complementary building products

Ground Floor			Consent Number : BC192253	
<div><div><div>PlaceMakers®</div><div>Know how. Can do.</div></div><div><div>FRAME & TRUSS</div></div></div> <div>cft.detailing@placemakers.co.nz</div> <div>PM Frame & Truss 1 Koru Place Harewood Christchurch Ph : 03-359-9560 Cell :027 209 1476</div> <div>Generation Homes Lot 33a Branthwaite Drive Branthwaite Rolleston</div>	Frame Dimension Layout			
	Drawn :	Ronan Correa	CFT Reff :	T177446
	Date :	12 Feb,2020	Branch Reff :	19-177446

Stud to top plate

For alternative fixing see the "Mitek Onsite Guide 2012"

FIXING TYPE A
0.7kN

2/90x3.15 plain steel wire nails
driven vertically into stud.

FIXING TYPE B
4.7kN

Single top plate
Double top plate

2/90x3.15 plain steel wire nails
driven vertically into stud
plus LUMBERLOK Stud Strap

FIXING TYPE B - 4.7kN
Option for Internal Walls

2/90x3.15 plain steel wire nails
driven vertically into stud
plus 6kN Stud Anchor (CPC80)

Rigid Air Barriers

If Ecoply Barrier or James Hardies RAB Board or HomeRAB is used
on all external walls, the nailing pattern below eliminates
the need for any other stud to top plate fixing on those walls.
Lintel fixings and loadbearing internal wall fixings will still be required.

20mm from
top of sheet

75mm centres
on top plate

See Ecoply Rigid Air Barrier Installation Manual
OR
James Hardies Rigid Air Barrier Installation Manual
for nail selection and nailing pattern on rest of sheet.

Lintel Fixing

- For alternative fixing see the "Mitek Onsite Guide 2012"
- Stud numbers indicative only. Refer Table 8.5 NZS 3604:2011.
- Minimum fixing to be Type E unless otherwise specified.
- Fix top jacks to top plates as per stud to top plate fixing
- Where Rigid Air Barrier is used,
continue top plate nailing pattern on top jacks and lintels.
- If Lumberlok Stud Straps do not reach lintel,
use Sheet Brace Strap (6 nails each end) to connect top jack and lintel

TYPE E
1.4kN

4 x 90mm x
3.15mm nails
2 x 90mm x
3.15mm nails
directly
below lintel.
90mm x 3.15mm nails
trimmer to understud
at 600mm crs.
Tylok 4T5 one side

TYPE F
4.0kN

6 x 90mm x
3.15mm nails
4T5 one side
2 x 90mm x
3.15mm nails
directly
below lintel
90mm x 3.15mm nails
trimmer to understud
at 600mm crs.
2 x Tylok 4T5

TYPE G
7.5kN

6 x 90mm x
3.15mm nails
400mm Sheet Brace
Strap to one side
2 x 90mm x
3.15mm nails
directly
below lintel
90mm x 3.15mm nails
trimmer to understud
at 600mm crs.
GIB Handbrac (TM)
Proprietary Screw Bolt

TYPE H
13.5kN

8 x 90mm x
3.15mm nails
400mm Sheet Brace
Strap to both sides
6 x 30mm x
3.15mm nails
each end of
each SBS
90mm x 3.15mm nails
trimmer to understud
at 600mm crs.
GIB Handbrac (TM)
2 x Tylok 4T5
on both sides
Proprietary Screw Bolt

PlaceMakers®
Know how. Can do.

FRAME & TRUSS

cft.detailing@placemakers.co.nz

PM Frame & Truss
1 Koru Place
Harewood
Christchurch
Ph : 03-359-9560
Cell :027 209 1476

Generation Homes
Lot 33a Branthwaite Drive
Branthwaite
Rolleston

Rigid Air Barrier

Stud-Lok Screws to be used on
Internal Loadbearing Walls

Ground Floor

Consent Number : BC192253

Stud To Top Plate And Lintel Fixings

Drawn : Ronan Correa

Date : 12 Feb,2020

CFT Reff : T177446

Branch Reff : 19-177446

Asbuilt Layout

Roof Pitch	25.000
Roof Material	Metal Tiles
TC Restraints	400
Overhang	600
Wind Zone	High
Roof Snow	0.441
BC Restraints	600
Ceiling Material	Rondo fixed to BC

Trusses And Rafters At 900 Centres
Unless Stated Otherwise

Fixings

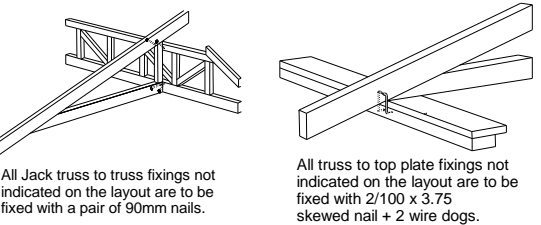
- = CT200 (LH & RH) Pair
- = 9kN TTP
- = 16kN TTP
- = 47x90 JH
- = 47x120 JH
- = 47x190 JH
- = 95x165 JH
- = Multigrips
- = SBS400
- = Split Hanger SP180
- = Nail On Plate

Wiredogs Fixing Per
Drawing>Note Below

Please contact PlaceMakers Frame & Truss Manufacturing if any on site remedial work is required. There will be no compensation for work done without PlaceMakers Frame & Truss Manufacturing written authority.

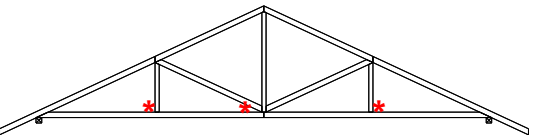
Job No.	177446
Job Name	Generation Homes- Lot 33a Branthwaite
Address	Generation Homes- Lot 33a Branthwaite Lot 33a Branthwaite Rolleston
Consent #	BC192253

Drawn Date	Leticia Hart 10 Feb,2020
Main Ph	03-359-9560
Cell Ph	027-587-6657
Email	leticia.hart@placemakers.co.nz



All Jack truss to truss fixings not indicated on the layout are to be fixed with a pair of 90mm nails.
All truss to top plate fixings not indicated on the layout are to be fixed with 2/100 x 3.75 skewed nail + 2 wire dogs.

Note: Where Internal Load-Bearing Walls are shown on layout Fixings required to all Trusses.



Trusses need bottom chord Restraints at
* 1800 Centres
if Rondo Metal Batten Clip System used [Not Directly Fixed]

